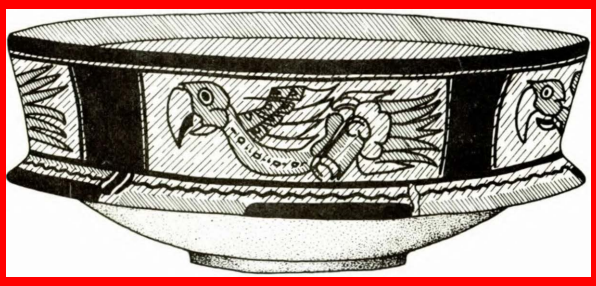
Maya Ceramics

Papers from the 1985
Maya Ceramic Conference

edited by
Prudence M. Rice
and
Robert J. Sharer

Part i



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Part i

1

Introduction

Prudence M. Rice and Robert J. Sharer

This volume is a collection of twenty-two papers presented at the 1985 Maya Ceramic Conference, held in Washington D.C. on December 3-4, 1985, under the sponsorship of the National Endowment for the Humanities. Beneath this simple statement, however, lie several years of organizational frustrations and thwarted good intentions, for the history of the Maya Ceramic Conference is a tale in itself.

THE 1965 GUATEMALA CITY CONFERENCE

The conference held in Washington in 1985 was not the only Maya ceramic conference ever to be convened. Twenty years earlier, the first formally organized conference dealing with the prehistoric pottery of the Maya lowlands was held in Guatemala City, Guatemala, August 9-13, 1965. Officially titled "The Conference on the Prehistoric Ceramics of the Maya Lowlands," it was organized by Gordon R. Willey with the financial support of the National Science Foundation and the logistical cooperation of the Museo Nacional de Antropologia e Historia de Guatemala. The conference was convened to address a series of substantive, methodological, and theoretical issues that were of interest to Maya lowland archaeologists in the early 1960s. Ten scholars with special interests in or knowledge of Maya ceramics participated in this meeting: Richard E. W. Adams, E. Wyllys Andrews IV, William R. Coe, T. Patrick Culbert, James C. Gifford, Robert L. Rands, Jeremy A. Sabloff, Robert E. Smith, Bruce W. Warren, and Gordon R. Willey.

Two formal data presentation/discussion sessions were held each day, complemented by reviews of the ceramic reference collections in the Museo Nacional and extensive informal exchanges among the participants throughout the

five days of the conference. Notes on the formal sessions were prepared each night by J.A. Sabloff, who served as conference secretary, and were reviewed by the conferees each morning. The conclusions of the conference participants were published as summary presentations in American Antiquity (Willey, Culbert, and Adams 1967) and Estudios de Cultura Maya (Culbert 1967).

The need for a Maya ceramic conference in the mid-1960s can be traced to several causes. In the preceeding decade there had been a virtual explosion of new but unpublished data from widely separated sites and regions throughout the Maya area. The proliferation of local complexes and sequences throughout the lowlands--newly recognized by analysts working essentially in isolation--demanded greater sharing and comparison of data in order to devolop successful ceramic chronologies and areal histories. Perhaps more important was the introduction of a new classificatory system in Maya ceramic studies, together with some questions about its implementation. Maya ceramic studies through the 1950s saw a multitude of loosely structured and unsystematized approaches to analysis, based primarily on ware units. In 1960, however, the type-variety system of ceramic classification, developed in the Southwestern United States (Wheat, Gifford, and Wasley 1958), was introduced to the Maya area (Smith, Willey, and Gifford 1960) and proved to be the catalyst for significant changes in pottery studies. The type-variety system offered the potential for typological comparability on a site-to-site and analyst-to-analyst basis, and thus tighter, more reliable chronological assessments and historical inferences. Despite considerable consultation and correspondence about the new method, there was some feeling that its implementation might be problematic, and it was hoped that an intensive, focused exchange of views would aid in resolving these issues. It was particularly evident that the system's taxonomic units and working concepts would require clearer, more precise definition before its promise might be fulfilled.

From today's perspective the 1965 Guatemala City Conference can be seen to have had a narrow and spotty geographical coverage with uneven chronological treatments, and the conceptual framework it developed was little more than a trial formulation. In the context of the 1960s, and the needs and goals of the conferees, however, the meeting can only be considered a success.

To begin with, for the first time a group of scholars concerned with the classification and interpretation of prehistoric lowland Maya pottery was able to carry on an extended exchange of both substantive data and theoretical/methodological views. The exchange of previously unshared data alone proved of immense value by

permitting local and area-wide syntheses of lowland Maya ceramic developments with a degree of precision never before possible. Even though it was limited in effective coverage to the Peten-Pasion-Belize valley zones, with only token treatment of such regions as the northern lowlands and the Chiapas highlands, these syntheses allowed initial formulation of a common, area-wide chronological framework involving ceramic "horizons" defined on the basis of shared ceramic "horizon markers." At the same time, a trial outline of lowland Maya ceramic history was worked out and presented for the first time, and thus laid the groundwork for many broader inferences concerning the general culture history of the area.

Methodologically and theoretically, the 1965 conference devoted considerable attention to concepts used by Maya ceramicists in the early to mid-1960s, and encouraged their critical examination. Their shortcomings and ambiguities were carefully reviewed, with new concepts being developed and existing ones refined as necessary. All of these were then defined as clearly and explicitly as possible after discussiom of their intended analytical functions and interpretive significance.

The signal achievement of the 1965 Guatemala City conference was the development of a standard, systematic methodological and theoretical framework of ceramic analysis in the Maya area, which shaped the main course of pottery studies in the region for the next two decades. By facilitating inter-analyst site-to-site ceramic comparisons and the definition of tight, areally comparable local ceramic chronologies, this framework made possible much of the historically-oriented research in the area since 1965.

THE NEED FOR THE 1985 CONFERENCE

In the twenty years since this first Maya ceramic conference, changes in the field of American archaeology have had important consequences for Maya research. These developments fall within the general field of Maya archaeology as well as within the more specialized field of ceramic studies, and their impact clearly established the need for a new Maya ceramic conference.

The most significant of these changes is the sheer increase in the amount of archaeology done in the Maya area. The 1965 Guatemala City conference drew upon available ceramic sequences from eleven sites or site-areas: Tikal, Uaxactun, Barton Ramie, Altar de Sacrificios, Seibal, Holmul, Dzibilchaltun, Mayapan, Palenque, Piedras Negras, Chiapa de Corzo--and on the cumulative experience of ten archaeologists/ceramicists. The resultant synthesis effectively covered only the central Peten/Belize region of the central lowlands; the northern lowlands, southern

highlands, and peripheries were represented by one or two sites each, or not at all. Since 1965 many archaeological projects have been undertaken throughout the Maya area in both highlands and lowlands by American, Guatemalan, Mexican, British, Canadian, French, Salvadoran, and Honduran archaeologists. These projects have contributed large quantities of data on areas underrepresented in the earlier conference.

As an example, in the 1965 conference, the ceramic history of the northern lowlands was represented by data from only Dzibilchaltun and Mayapan. Since then (1965) over a dozen separate major investigations have served to fill in the picture throughout Yucatan, Campeche, and Quintana Roo--both coastal and inland portions of the peninsula. Of particular recent interest has been the Postclassic period, and a critical re-evaluation of the role of ceramic-defined complexes in bringing about a better understanding of the relationship between Coba, Chichen Itza, Mayapan, and adjacent areas during this period (e.g., Andrews and Robles 1985; Lincoln 1986; Fry, this volume, Robles this volume).

The central and southern lowlands were relatively well represented in the original conference by sequences from eight sites in four subregions: central/northeast Peten, Belize, Pasion, and western periphery. The western periphery is represented here by two updated sequences (Holley, this volume; Rands, this volume). Two Pasion sites, Altar de Sacrificios and Seibal, were represented at the earlier conference though the final ceramic reports were published in the 1970s (Adams 1971; Sabloff 1975). For central Peten, the original conference reported data from Uaxactun, Tikal, and Holmul; of these sites, only the Uaxactun data were relatively complete (Smith 1955). Although the ceramic history of Tikal has been reported in numerous publications (e.g., Culbert 1973, 1977; Fry 1979, 1980), it still has not been published in final form. More recently, Proyecto Tikal of the Instituto de Antropologia e Historia de Guatemala has undertaken excavation and reconstruction activities at the Late Classic Group G complex and the Early Classic Mundo Perdido Complex at the site center (see Laporte and Fialko, this volume).

It is the small country of Belize where the most dramatic increase in archaeological research has occurred in the last twenty years. While the original 1965 conference reported data only from Barton Ramie, the final report on the site was not available until the mid-1970s (Gifford 1976). Since 1960 about a dozen sites in Belize--primarily in northern Belize--have been the focus of sizeable research efforts and ceramic analysis (e.g., Chase and Chase, this volume; Reese and Valdez, this volume. One of the most dramatic discoveries in this area has been pottery that is as early as any in Mesoamerica (see

Kosakowsky, this volume).

In the original 1965 conference, the southern Maya area including the Guatemala highlands, the Pacific coast, and the southeastern periphery of El Salvador and Honduras, were not represented at all (except perhaps tangentially by the ceramic data from Chiapa de Corzo). Since 1965 a great deal of work has been done in these areas and has illuminated the long history of complex socioeconomic ties between highlands and lowlands (Sharer and Sedat, this volume). On the Pacific coast, the antiquity of coastal sedentism has been extended by pottery sequences at several similar sites along the Chiapas littoral area (Lowe 1975), while in the highlands a series of major site pottery sequences (developed using type-variety-mode analysis) has served to anchor the cultural chronology of that area (e.g. Wetherington 1978; Sharer 1978). Regional studies--indicative of a trend to break away from single-site oriented research--in the Guatemala highlands have greatly expanded our knowledge of the temporal and spatial distributions of specific pottery classes and modes (Ichon, this volume; Arnauld, this volume). A study of Protohistoric highland pottery (Wauchope 1970) represents an initial and important attempt to link archaeological (ceramic) data to ethnohistorical reconstructions.

Finally, in the southeastern periphery, a series of recent and on-going studies has clarified for the first time the ceramic relationships of the southeastern lowlands to both the Maya highlands and the central lowlands (e.g., Joyce, this volume). In addition, the results of type-variety-mode analyses are being integrated with problem-oriented research aimed at behavioral and processual questions. For example, studies of widespread horizon markers, such as Copador pottery (Beaudry, this volume; Urban and Schortman, this volume) and Usulutan pottery (Demarest and Sharer 1982; also Demarest, this volume), are yielding insights into the growth and pattern of production and trade in this region.

Clearly there has been a dramatic rise in the number of archaeological projects undertaken in the Maya area in the last twenty years. There has also been an increase in the number of people and institutions undertaking them. Whereas in 1965 ten archaeologist/ceramicists contributed to the conference, today there is a field of at least fifty first-, second-, and third-generation ceramicists actively working with archaeological pottery in the Maya area. The amount of activity and the volume of resultant sherds from these projects make it increasingly difficult for most ceramicists to gain "hands-on" acquaintance with all materials related to their particular site or region. At the same time, the rise in fieldwork has underscored the real need for such familiarity in order to establish not only effective typological distinctions but culture-

historical and site-relational inferences as well.

One of the changes in the general field of archaeology that has had significant impact on Mayanists is a change in the goals and objectives of archaeological research. The basic outline of Maya prehistory in terms of space-time relations has been largely achieved, and attention is currently focusing on more specialized issues or problems particular to individual periods. Many of these issues are studied directly or indirectly through ceramic evidence. One such problematical interval is the Protoclassic period (see Case 1982; Brady, this volume); another is the Postclassic and contact periods, especially trade and documentation of ethnohistoric records and ethnic groups. The nature of the Classic-to-Postclassic transition is also of considerable interest (Graham, this volume), as are highland-lowland political and economic interactions throughout the course of Maya civilization. The puzzling origins of the volcanic ash tempering used in Classic Maya pottery (Ford and Glicken, this volume) is one aspect of this latter question that is being investigated.

A significant data base for addressing these concerns has been--and will continue to be--archaeological pottery. As the research questions addressed by Maya archaeologists become broader, so too do the approaches used by Maya ceramicists. Discussion of taxonomy specifically, while it is of continuing interest and is raised sporadically every few years, has been largely submerged by concern for behavioral or "processual" issues. This is not entirely to the good, because the two kinds of studies are, rightly or wrongly, interrelated. Regardless of the ultimate objective, the study of most archaeological pottery begins with classification of the sherds into established taxonomic units or the adoption of new units (Henderson and Agurcia, this volume). The purposes of such classification is to have a common set of named referents for use in outlining the occupational history of a site and comparing these sequences with the history of other sites of interest. Further studies--modal, stylistic, technological--are sometimes undertaken (and have significance in their own right), but the initial step has traditionally been classification because the primary objective has traditionally been culture-history.

With respect to the Maya area specifically, Willey, Culbert, and Adams (1967), in their summary of the 1965 conference, remark that prior to 1960 Mayanists' ceramic classifications were individualistic and loosely-structured, based on rather vague units called "wares" and oriented toward chronology-building. After 1960, the focus on non-chronological, "processual" questions (as well as the increase in numbers of Mayanists) demanded an end to this somewhat anarchistic approach. The type-variety system of classification was adopted by practicing

ceramicists in order to develop comparable taxonomic units and to provide a common medium of communication. The assumption that the more rigorous procedures of the type-variety system were somehow better suited to behavioral inferences was generally implicit (and sometimes explicit; Gifford 1960), as was the assumption that chronology-building would be of diminished importance in future ceramic studies.

Whereas the creation and description of taxonomic units was the objective of earlier ceramic studies, today the creation of such units is only part of a much broader range of studies in which pottery is required to yield data on a variety of topics aside from mere chronology. For these topics, it is often not the types and varieties of pottery that are significant units of study, but cross-cutting units such as wares, decorative modes, or functional complexes (e.g., unslipped vessels, Forsyth and Hansen, this volume) that will meet the emerging needs of production and function studies of Maya pottery. In addition, ethnoarchaeological research can be expected to be increasingly important in the Maya area (e.g., Arnold, this volume), as it is in other culture areas.

ORGANIZING THE 1985 MAYA CERAMIC CONFERENCE

The 1985 Maya Ceramic Conference began innocently enough as an intriguing idea in 1980, but during its long gestation period it began to take on herculean--nay, sisyphean--proportions. The conference ultimately underwent several incarnations before coming to its successful--albeit abbreviated--fruition in Washington.

In March of 1980 Rice felt it was time to begin planning the organization of a second ceramic conference, and sent out letters to colleagues asking for expressions of interest in such a conference, opinions on format, size, and location, and so forth. Apparently several other Mayanists had also independently determined that this was a propitious time to organize a new ceramic conference, for there were rumblings in many quarters along these same lines. The response was generally enthusiastic, respondents highlighting need for such a conference resulting from the amount of new work since the last conference, the exclusion of the highlands and southeastern periphery from the first meeting, and the increasing diversity of approaches within the field of ceramic analysis.

The "first organizational meeting" for the Maya Ceramic Conference was held between Rice, Sharer, and Joseph Ball at Dumbarton Oaks in the kitchen of the director's home on October 18, 1980. The conference plans were ambitious: three regional conferences focusing on the

northern lowlands, southern lowlands, and highlands and Pacific coast. These were each to be one week long and would be held in Yucatan and Guatemala City in order to facilitate participation of Latin American colleagues and access to relevant collections. Financial support would be sought from the National Science Foundation and the National Endowment for the Humanities. The planned date for holding the conferences was February of 1983.

In June of 1982 the NSF and NEH proposals were submitted; NSF rejected the proposal, while NEH awarded Rice a grant supporting the Maya ceramic conference. From the viewpoint of the NEH accounting department, this was to be an act that would live in infamy, for the Maya Ceramic Conference grant has no doubt gone through more extensions than any other grant in their history.

Thoroughly--if somewhat naively--convinced of the desirability of holding the ceramic conference outside the United States, we the organizers doggedly pursued alternative funding strategies to support travel, subsistence, and publication costs of the conference. The date was postponed to fall of 1983 and proposals were submitted to the Organization of American States, Tinker Foundation, and the University of Florida internal grants competition. We also investigated the possibility of holding a School of American Research conference in Santa Fe. All these efforts were for naught.

At that point, we staged a retreat to lick our wounds and rethink our strategy. In the meantime, other commitments had forced one of the original planners (Ball) to withdraw from an active role in organizing the conference. We optimistically continued to plan for a conference outside the US, and decided to limit the scope and duration of the conference to hold down funding costs. In June-July of 1983, Rice traveled to Guatemala City and secured the kind cooperation of Sr. Federico Fahsen (then director of INGUAT, the government tourist agency of Guatemala) and the auspices of INGUAT in making arrangements for the conference. This third incarnation of the conference was planned as a one-week event in late February of 1984 in Guatemala City.

The rest, as they say, is history. In August of 1983 there was a coup in Guatemala that, among other things, resulted in changes in many bureaucratic personnel, including INGUAT. One consequence of this was the withdrawal of the original offers of support in Guatemala. In addition, the conference participants were beginning to question seriously the wisdom of travelling to Guatemala given the political violence there.

Abandoning all hope of holding any conference in Guatemala, but unwavering in our efforts to hold the

meeting outside the U.S., we made one last-ditch try, this time for a gathering in Chiapas in February of 1985. Again tantalizing prospects for local support did not come through, and at that point we were forced to abandon our efforts to hold the conference in Latin America.

Salvaging what little we could of the original intent of the conference, we scheduled it to coincide with the meeting of the American Anthropological Association in Washington D.C. in December of 1985. Despite the many false starts, we were gratified at the turnout in Washington: a total of 30 papers were presented and attendance reached as many as 100 people at the two-day sessions. Because of a publication funding deadline, we imposed a deadline for submission of papers presented at the 1985 conference for inclusion in this volume. The papers included here represent those submitted prior to that deadline. All in all, there is probably a lesson to be learned in this murky saga, but the two organizers are leaving it to future generations to determine what this might be.

Despite the problems with organizing the conference, it was ultimately a successful event, and we want to express our thanks to the participants for their help (and patience!) in bringing it about. We are particularly grateful to the National Endowment for the Humanities for their support of the conference and the publication of this volume, and for awarding an endless number of extensions under circumstances that must have strained their credulity. Finally, we deeply appreciate the word-processing assistance of Ms. Jenette Savell, who typed and helped edit the papers for publication.

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Regional and Chronological Studies 1: The Maya Lowlands

2

The Formative Ceramic Sequence of Cuello, Belize

Laura J. Kosakowsky

Archaeological research in northern Belize has produced a ceramic sequence that begins in the Early Formative or Preclassic period about 2000 BC and extends into the Historic period. Excavations at the site of Cuello (Fig. 1), located between the modern towns of Orangewalk and Yo Creek, beginning in the early 1970s and temporarily halted in 1980, demonstrated an unusually old and previously unknown ceramic sequence for the lowland Maya area. The original research on the Cuello ceramics was conducted by Duncan Pring (1977) and laid the groundwork for the current Cuello ceramic typology. Further excavations and a larger sample of ceramics allowed refinement of the initial typology. The analysis of the ceramics from Cuello uses the traditional type-variety classification system to order the ceramics chronologically.

The earliest ceramic complex identified at Cuello is the Swasay complex (Table 1), with radiocarbon dates placing it roughly between 2000 BC and 1200 or 1100 BC. Much debate has been centered on both the radiocarbon dates and the Swasey ceramics themselves owing to their supposed technological and stylistic "sophistication" (Marcus 1983; Hammond 1984). While standard deviations in radiocarbon dates may change the final assessment of the Cuello dates by a couple of hundred years or so, it is irrefutable that Swasey pottery is indeed stratigraphically older than and typologically dissimilar to Middle Formative pottery. Although modal similarities may be identified between almost any two collections of pottery, it seems most likely that the antecedents to Swasey ceramics still lie in the ground in the Maya area.

Swasey pottery is fairly simple in design, form, and execution. Vessel forms tend to be vertical, slightly flaring, or recurving sided bowls and dishes with direct

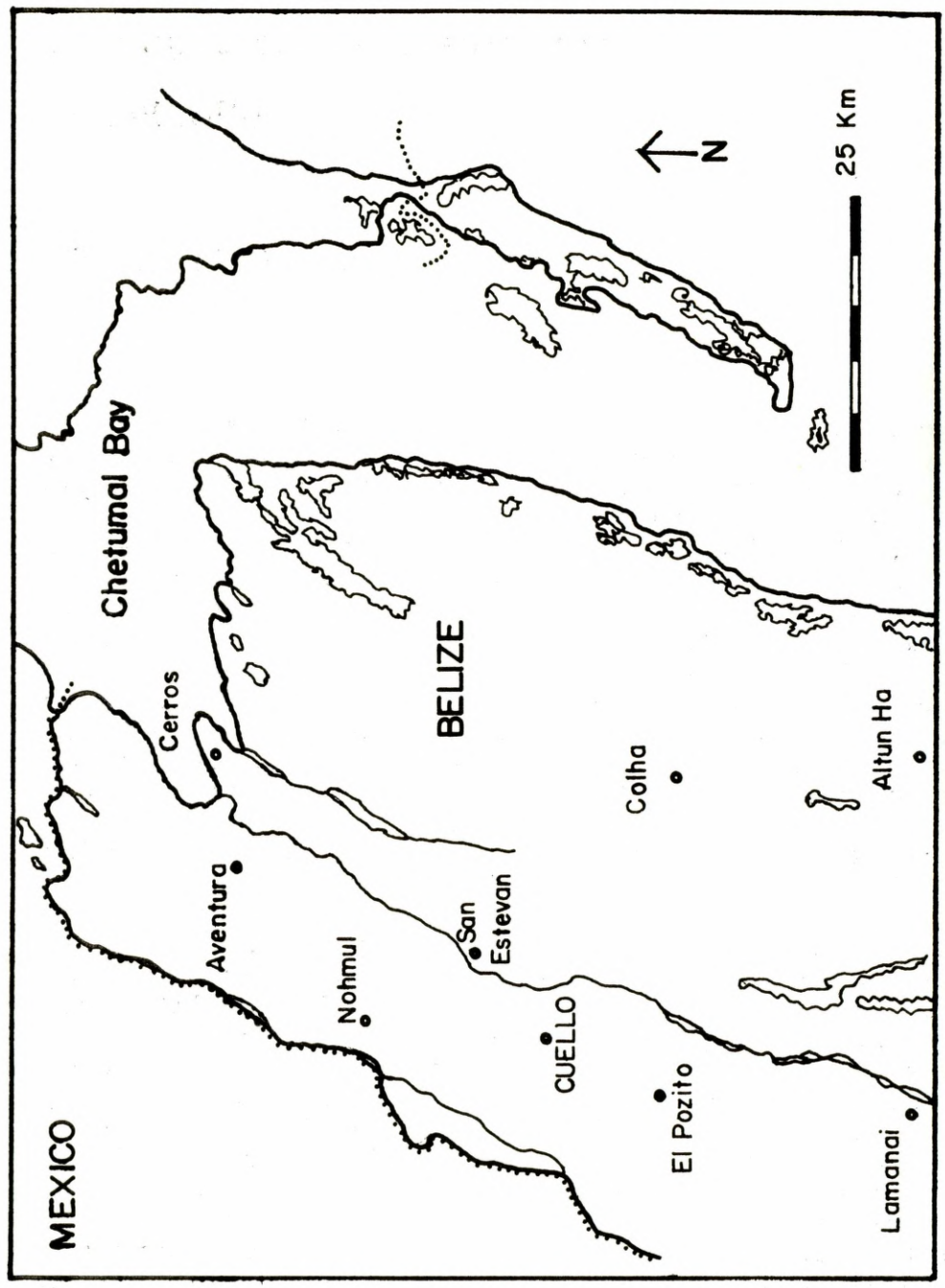

Fig. 1. Map of northern Belize, showing Colha and nearby sites.

Table 1. Major Types of the Swasey Complex

UNSPECIFIED WARE

Copetilla Group
- Copetilla Unslipped: Copetilla Variety
- Yotolin Pattern-burnished: Variety Unspecified

RIO NUEVO GLOSSY WARE

Consejo Group
- Consejo Red: Consejo Variety
- Backlanding Incised: Backlanding Variety
- Backlanding Incised: Grooved-incised Variety
- Pettville Red-and-cream: Pettville Variety
- Pettville Red-and-cream: Unnamed variety
- Other Consejo Ceramic Group: Unspecified

Machaca Group
- Machaca Black: Machaca Variety
- Chacalte Incised: Chacalte Variety

FORT GEORGE ORANGE WARE

Chicago Group
- Chicago Orange: Chicago Variety

or thickened rims and squared lips (Fig. 2). Jars have medium to high outcurving necks, thickened rims, the easily identifiable Swasey square lips, and double or triple cylinder strap handles (Fig. 3). Approximately 58% of the ceramic assemblage at any one time is composed of the monochrome red group, Consejo, a vermilion red (Munsell: 10R 4/8; see also Appendix A for Munsell color notations of all Swasey types) with a pinkish, tan, gray, or white underslip. This is followed in diminishing numbers by the Chicago Orange group (29%), the Copetilla Unslipped group (9%), and the Machaca Black group (4%). Slips are generally slightly glossy with little crackling or crazing, though fireclouding occurs occasionally, and rootlet erosional marks are common on all the Swasey pottery. Of the slipped pottery, which comprises 90% of the ceramic assemblage at any one time, approximately 25% is decorated in some fashion. This includes groove incising and dichrome slips, with a few examples of fine line incising, modeling, punctation, and black smudging. Pattern burnishing appears to be present on unslipped bottles similar to material found at Mani Cenote in the Yucatan peninsula (Brainerd 1951), although the date of the Mani material is currently in question.

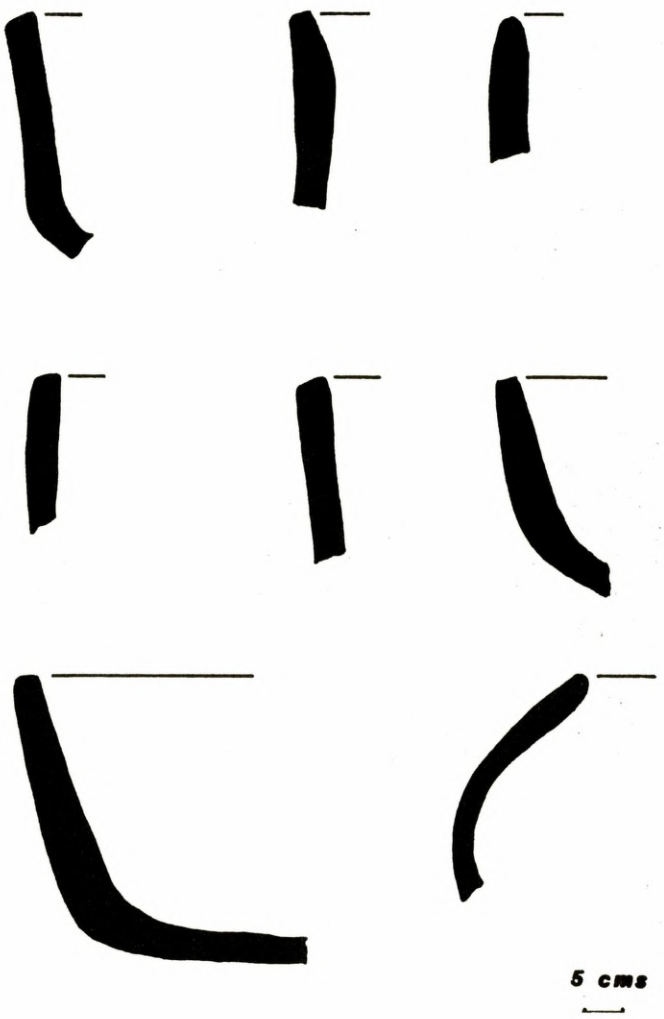

Fig. 2. Typical bowl/dish forms of the Swasey complex.

It is not clear whether Swasey material has been identified at other sites in northern Belize due to the later radiocarbon dates at these other sites, and the fact that there is some typological overlap with the succeeding late Early Formative complex. If Swasey material is confirmed at other sites, then the ceramics will be placed in the tentatively identified Swasey sphere.

At Cuello, the Swasey complex is followed by the Bladen complex (Table 2), beginning about 1200 or 1100 BC and continuing until approximately 700 BC. This complex is a mix of ceramics originally called "Late Swasey" at Cuello by Pring (1977), "Xe" as identified by Adams at Altar de Sacrificios (1971), and "Late Swasey/Early Mamom" at Colha by Adams and Valdez (1981). The Bladen complex is marked by the appearance of cream slipped pottery, and red-on-cream decoration that augurs the red-on-creams of the succeeding Mamom sphere ceramics.

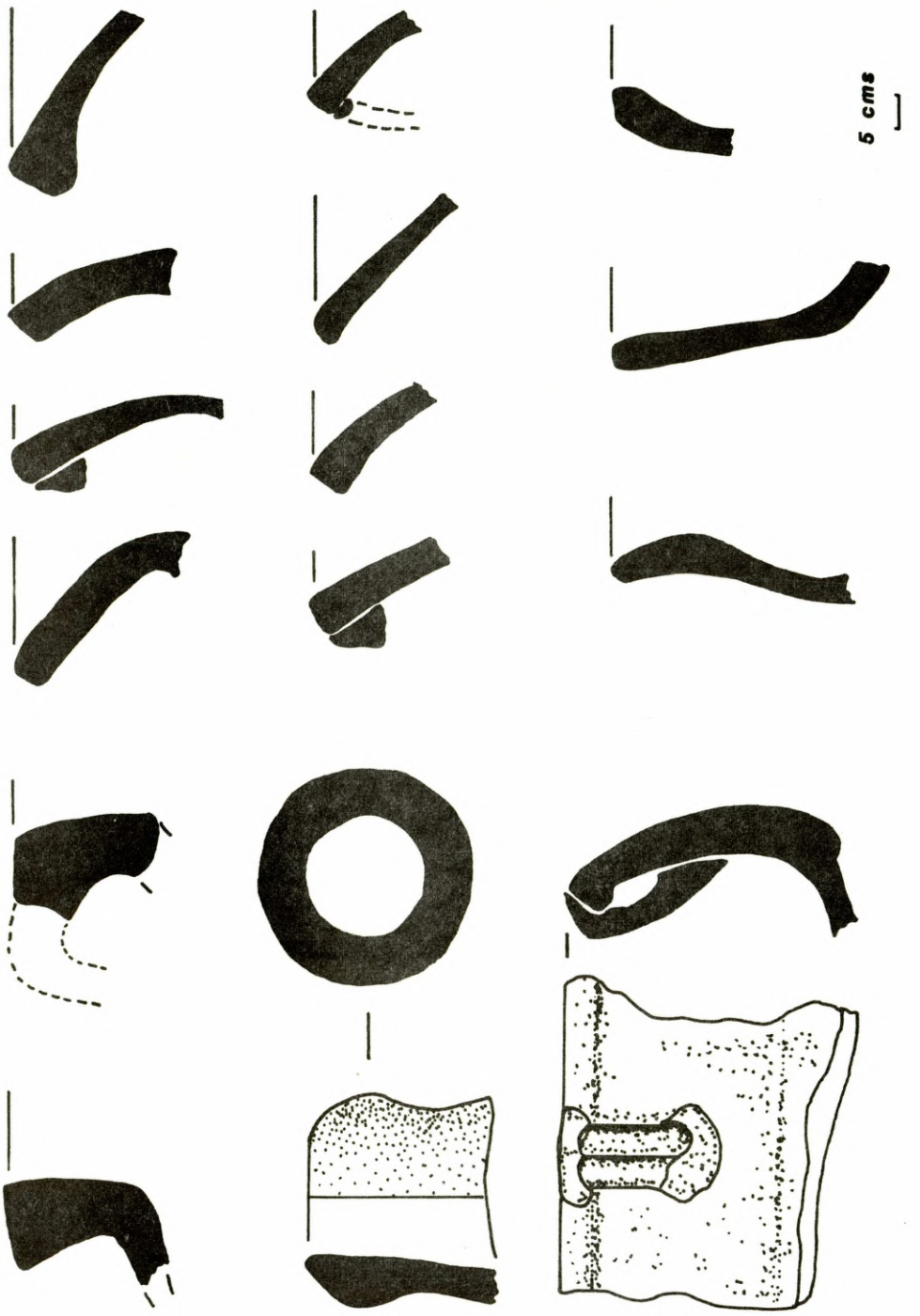

Fig. 3. Typical jar forms of the Swasey complex.

Table 2. Major Types of the Bladen Complex

UNSPECIFIED WARE

Copetilla Group
Copetilla Unslipped: Gallon Jug Variety

RIO NUEVO GLOSSY WARE

Consejo Group
Consejo Red: Estrella Variety
Barquedier Grooved-incised: Barquedier Variety
Fireburn Red-and-cream: Fireburn Variety
Fireburn Red-and-cream: Unnamed variety
Cudjoe Red-and-unslipped: Cudjoe Variety
Cudjoe Red-and-unslipped: Unnamed variety
Other Consejo Ceramic Group: Unspecified

Machaca Group
Machaca Black: Wamil Variety
Chacalte Incised: Yo Creek Variety

Quamina Group
Quamina Cream: Quamina Variety
Tower Hill Red-on-cream: Tower Hill Variety
Tower Hill Red-on-cream: Unnamed variety (resist)
Other Quamina Ceramic Group: Unspecified

FORT GEORGE ORANGE WARE

Chicago Group
Chicago Orange: Nago Bank Variety
Cotton Tree Incised: Cotton Tree Variety

UNSPECIFIED WARE

Honey Camp Group
Honey Camp Orange-brown: Honey Camp Variety
Copper Bank Incised: Copper Bank Variety

Once again, monochrome red pottery dominates the complex, representing 56%. The Consejo (red) group continues in the Bladen Complex, although the color of the slip is now more consistent, achieved in part by a more consistent cream or almost white underslip. In diminishing numbers the monochrome reds are followed by the Chicago (orange) group (24%), the Honey Camp (orange-brown) group (15%), and the remaining 5% made up of the Copetilla (unslipped), Machaca (black), and Quamina (cream) groups. Slip colors and textures are similar to the Swasey complex, being fairly glossy and non-waxy. Vessel forms also are similar to the Swasey ones with the

addition of flaring sided dishes, and the replacement of thickened rims and squared lips with direct or exterior folded rims and round lips (Fig. 4). Although there may be some continuation of the use of double or triple cylinder strap handles, they are largely replaced by loop handles with incisions, in effect mocking the cylinder handles. The slipped pottery shows an even greater percentage of decoration, 36%, consisting of incising, groove incising, dichrome slips, punctation, modeling, and resist painting (Fig. 5).

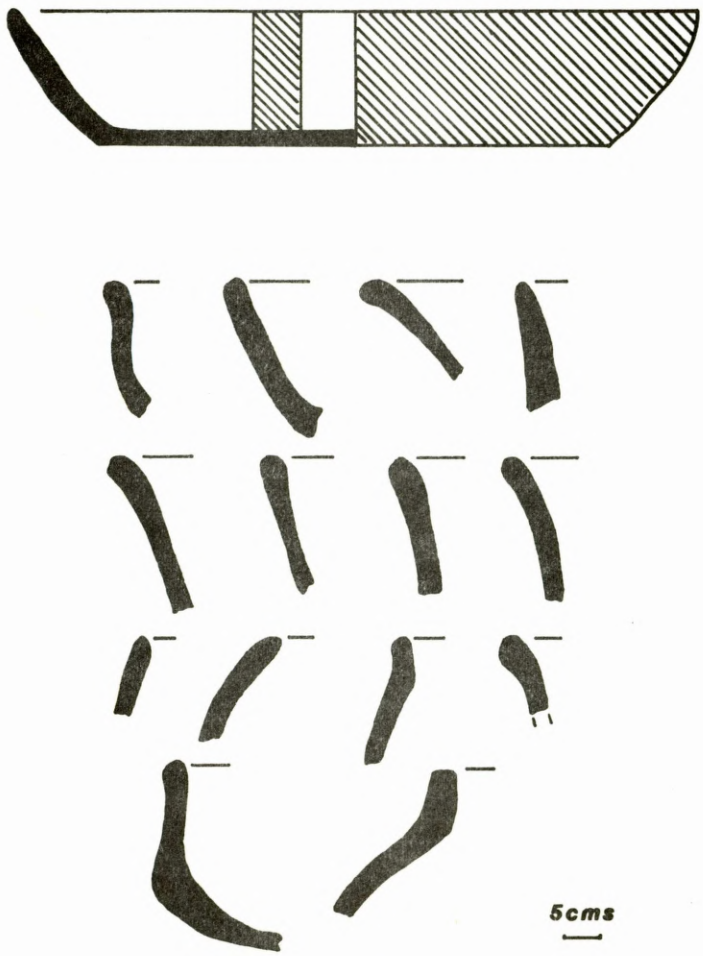

Fig. 4. Typical bowl/dish forms of the Bladen complex.

It is clear that Bladen-like material has been excavated at the sites of Colha (Adams and Valdez 1981; Kosakowsky and Valdez 1982), Kichpanha (Valdez, personal communication), Nohmul (Kosakowsky, current research), El Pozito, Santa Rita, and San Estevan (Hammond 1974-1975) in northern Belize. In addition, the Bladen ceramics show a strong overlap with the Xe complex ceramics at Altar de

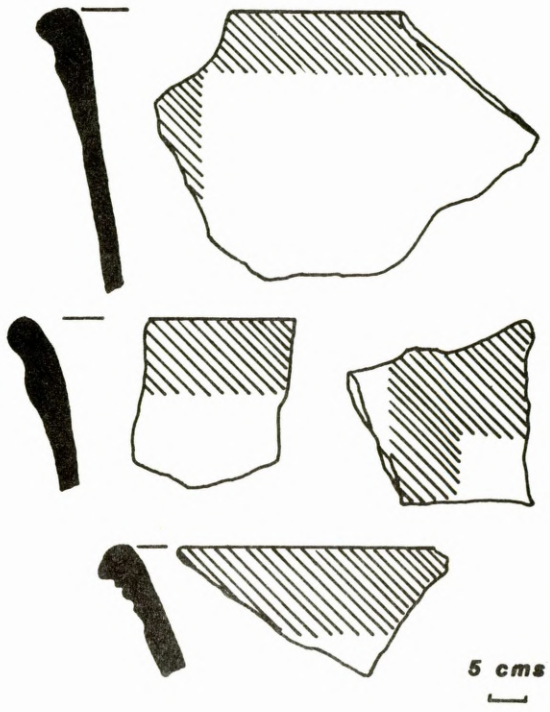

Fig. 5. Tower Hill Red-on-cream: Tower Hill variety (Bladen complex).

Sacrificios (Adams 1971). Consejo Red is much like Abelino Red, the Altar de Sacrificios monochrome red, and Huetche White identified by Adams (1971) at Altar de Sacrificios is similar to the underslip found on many of the Consejo Red sherds at Cuello, which may explain the rarity of white slipped sherds at northern Belize sites. Chacalte Incised: Chacalte variety, a Cuello black type with post-slip incisions, is virtually indistinguishable from Chompipi Incised: Chompipi variety at Altar de Sacrificios (Kosakowsky, personal observation, Peabody Museum 1981). An examination of the Eb complex material from the site of Tikal suggests further modal similarities between the Cuello and Peten material during the late Early Formative. Aac Red-on-buff at Tikal is similar in vessel form and slip characteristics to Consejo Red, and there is some overlap between the Chicago Orange type at Cuello and Calam Buff at Tikal (Culbert, personal communication).

In light of all the evidence, although discrepancies in radiocarbon dates exist from site to site, it seems probable that the late Early Formative Bladen complex at Cuello should be included within a Bladen/Xe sphere of ceramics, encompassing much of the pre-Mamom pottery found at many sites in northern Belize and Peten. The Bladen

complex at Cuello suggests close typological similarities with ceramics from central Peten and the Pasion River drainage, although some regionalization still exists. Slip and vessel form combinations that overlap with early Mamom pottery cloud the issue; however the same regional ceramic sphere affiliations that become even more apparent in the Middle and Late Formative may now in fact be extended farther back to include the latter part of the Early Formative.

Mamom sphere pottery makes its appearance at Cuello beginning about 700 BC and is called the Lopez complex (Table 3). There is remarkable standardization in types and varieties from site to site in the Middle Preclassic, and Cuello is no exception. Monochrome reds of the Joventud (red) group once again dominate, comprising roughly 40% of the ceramic assemblage. The remaining ceramic groups include the Chicago (orange) group (33%), the Muxanal (red-on-cream) group (19%), the Achiotes (unslipped) group (4%), and the remaining 3% are split between the Chunhinta (black) and Pital (cream) groups.

Table 3. Major Types of the Lopez Complex

UAXACTUN UNSLIPPED WARE

(Achiotes?) Group
- Richardson Peak Unslipped: Richardson Peak Variety

FLORES WAXY WARE

Joventud Group
- Joventud Red: Palmasito Variety
- Guitara Incised: Grooved-incised Variety
- Desvario Chamfered: Desvario Variety
- Other Joventud Ceramic Group: Unspecified

Chunhinta Group
- Chunhinta Black: Chunhinta Variety
- Deprecio Incised: Grooved-incised Variety

Pital Group
- Pital Cream: Variety Unspecified
- Paso Danto Incised: Variety Unspecified

Muxanal Group
- Muxanal Red-on-cream: Lazaro Variety
- Other Muxanal Ceramic Group: Unspecified

FORT GEORGE ORANGE WARE

Chicago Group
- Chicago Orange: Warrie Camp Variety

Lopez complex slips are generally fairly waxy, non-glossy, thick, and soft. Fire crackling, crazing, and fireclouding are all common. Of the slipped pottery, which now represents 96% of the ceramic assemblage, approximately 44% is decorated in some fashion; either by means of groove incising, which predominates, or dichrome slips, chamfering, and modeling. The predominant vessel form is the outflaring or outcurving sided dish or plate with exterior folded or direct rim and round lip. Often the dish has groove incising around the interior of the everted rim with the double-line break motif (Fig. 6). There is an abundance of red-on-cream decoration, with plates or dishes slipped red on the interior, and cream with red dots or vertical or diagonal stripes on the exterior. There are also large numbers of thin walled incurving bowls or tecomates, bottle tops, and spouts.

There continues to be some regional variation in the Mamom sphere in northern Belize at this time. For example, to the south of Cuello at the site of Barton Ramie, there are apparently different ceramic modes

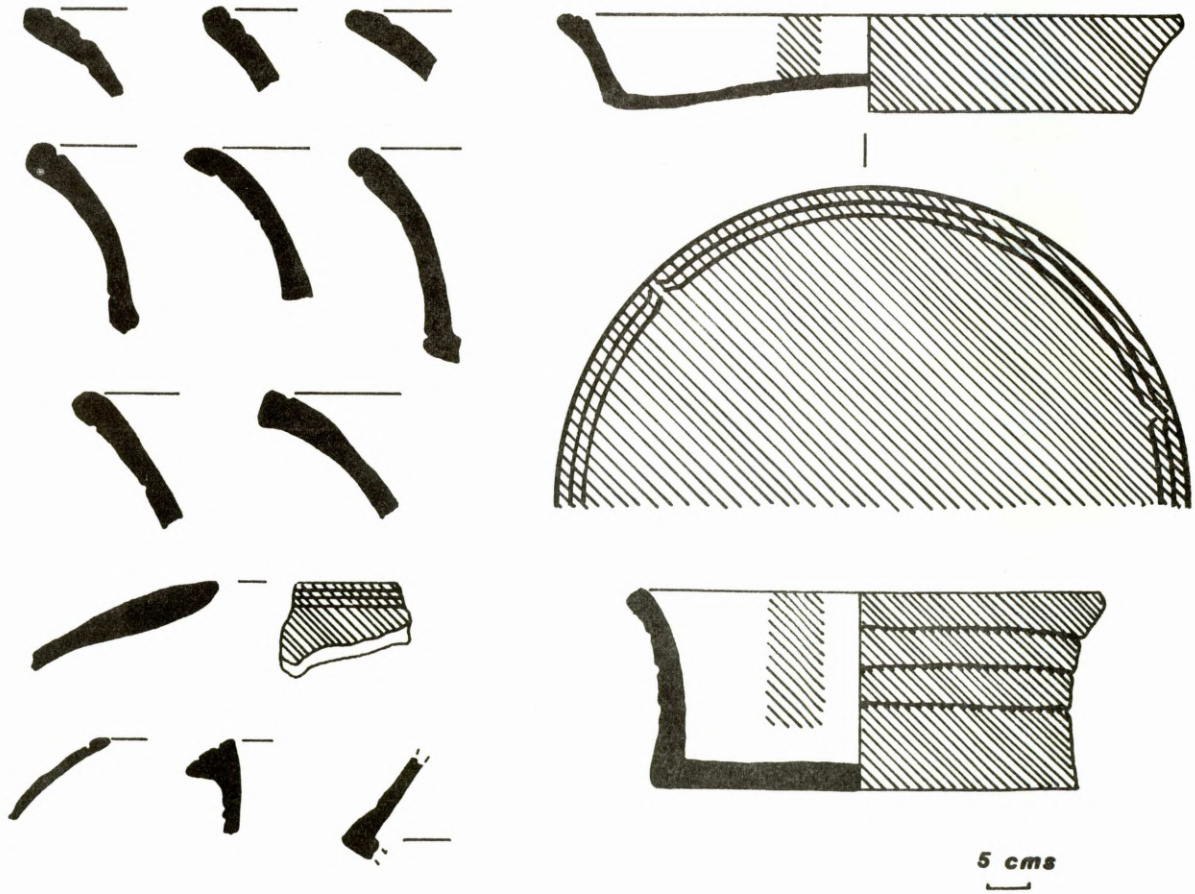

Fig. 6. Typical dish/plate forms of the Lopez complex.

(Gifford 1976), while to the north, at Cerros, Robertson (1980) reports the complete absence of Mamom sphere pottery. At other sites such as Colha (Adams and Valdez 1981) and Nohmul (Kosakowsky, current research), however, the Mamom ceramics are astonishingly similar to Cuello material. At Cuello the Lopez Mamom complex ends at about 400 BC.

The late Mamom transition to the Late Formative Chicanel sphere, called the Cocox complex (Table 4) at Cuello, is marked by ceramics that are a mix at the modal level, sharing attributes of Mamom and Chicanel pottery. The early facet of the Cocos complex begins at approximately 400 BC and ends about 300 or 250 BC. It is sinilar to both the Tzec complex at Tikal (Culbert, personal communication) and the late facet of the Chiwa complex at Colha (Adams and Valdez 1981; Kosakowsky and Valdez 1982).

This Mamom/Chicanel mix is marked by the introduction of Chicanel vessel forms retaining some of the groove incised decoration previously described for the Lopez complex on the traditional Mamom waxy, soft, thick slip. Although Robertson (1980) reports the absence of Mamom pottery at Cerros, personal observation of the material suggests that her earliest complex, called Ixtabai, does show some Mamom features and may also belong within the Mamom/Chicanel continuum.

The Chicanel sphere continues at Cuello, and at about 300 or 250 BC it is marked by the appearance of typical Chicanel pottery found at almost every site in the Maya lowlands, showing greater standardization from site to site than in any of the previous periods. Once again, at Cuello the monochrome reds of the Sierra group predominate, constituting 73% of the ceramic assemblage. This is followed in decreasing numbers by the Chicago (orange) group (16%) and the Paila (unslipped) and Sapote (unslipped, striated) groups (4%), with the remaining 7% composed of the Polvero (black), Flor (cream), Matamore (dichrome), and Escobal (red-on-buff) groups. Slips are slightly waxy at the beginning of the Cocos complex, but become harder and glossier toward the end of the Late Formative. Fireclouding is common. Ninety-six percent of the Cocos complex is slipped, and 23% of the slipped pottery is decorated. Decorative techniques have expanded to include incising, punctation, impressing, applique, modeling, molding, and the use of dichrome and, late in the complex, even trichrome slips. Vessel forms (Fig. 7) are highly variable with outcurving sided buckets and bowls, incurving bowls, composite silhouette vessels with medial and labial flanges, and just about anything imaginable, including an amphora.

Table 4. Major Types of the Cocos Complex

UAXACTUN UNSLIPPED WARE

(Paila?) Group
Richardson Peak Unslipped (Cocos): Richardson Peak Variety

Sapote Group
Sapote Striated: Variety Unspecified

PASO CABALLO WAXY WARE

Sierra Group
Sierra Red: Ahuacan Variety
Ahchab Red-and-buff: Variety Unspecified
Sierra Red: Sierra Variety
Sierra Red: Big Pond Variety
Society Hall Red: Society Hall Variety
Society Hall Red: Bound to Shine Variety
Society Hall Red: Unnamed variety (dichrome)
Laguna Verde Incised: Grooved-incised Variety
Laguna Verde Incised: Laguna Verde Variety
Lagartos Punctated: Lagartos Variety
Repollo Impressed: Variety Unspecified
Union Appliqued: Variety Unspecified
Puletan Red-and-unslipped: Puletan Variety
Puletan Red-and-unslipped: Unnamed variety
Other Sierra Ceramic Group: Unspecified

Polvero Group
Polvero Black: Polvero Variety
Lechugal Incised: Grooved-incised Variety

Flor Group
Flor Cream: Variety Unspecified

Matamore Group
Matamore Dichrome: Matamore Variety

Escobal Group
Escobal Red-on-buff: Variety Unspecified

FORT GEORGE ORANGE WARE

Chicago Group
Chicago Orange: Chucun Variety
Chicago Orange: Chucun Variety (Black-rimmed)

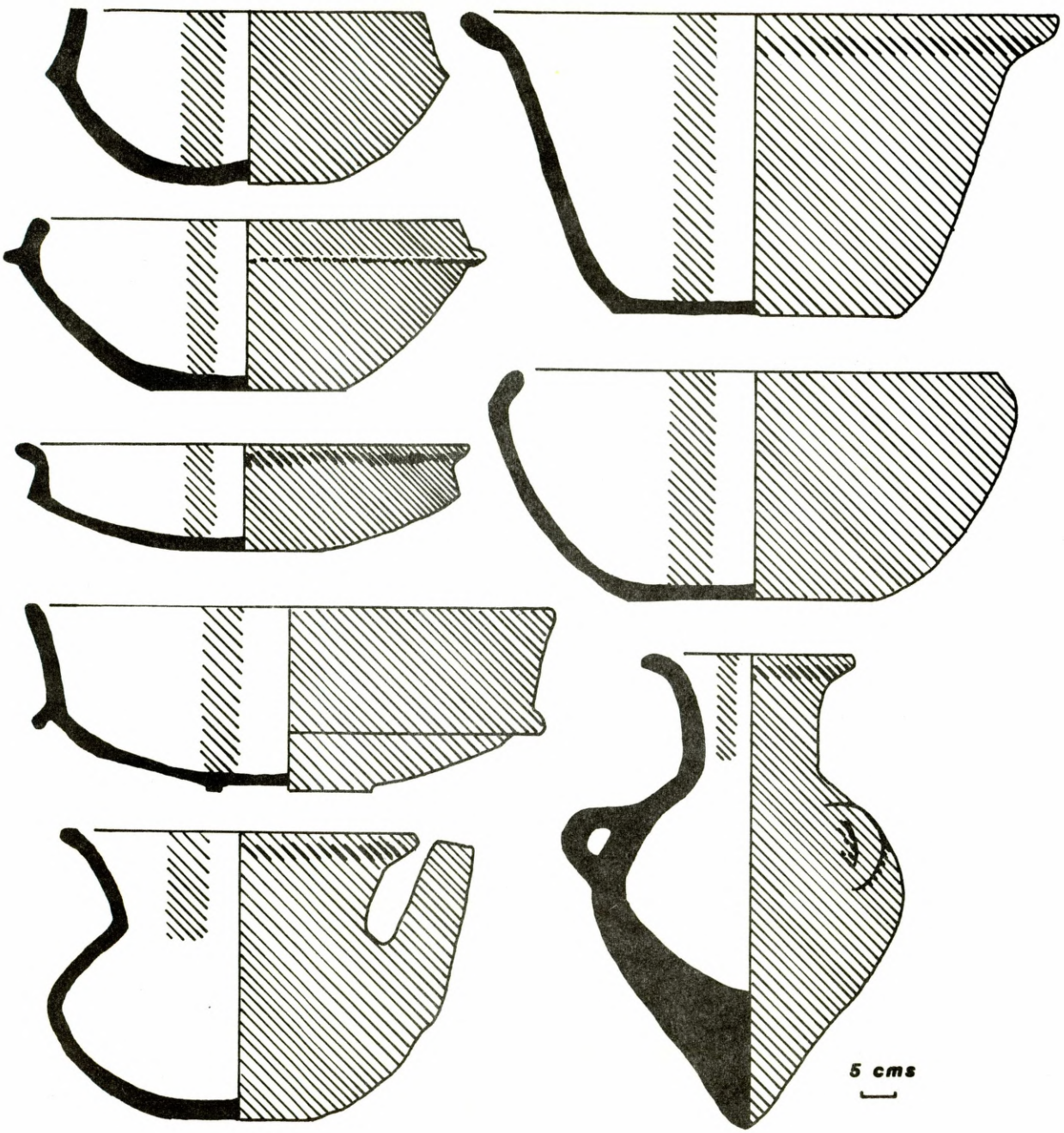

Fig. 7. Typical vessel forms of the Cocos complex.

One easily identifiable pottery type that links Cuello to other northern Belize sites and even to the central Peten and Pasion River sites is Society Hall Red. Originally called the Society Hall variety of Sierra Red at Barton Ramie (Gifford 1976), and the Xaibe variety of Sierra Red at Cuello (Pring 1977), it has since been elevated to a type in its own right (Kosakowsky 1983). The large sample size and variety encountered in the sample at Cuello suggests this interpretation to be most appropriate.

This pottery type is characterized by a glossy streaky finish achieved by successive wipings of the slip onto the vessel. Although Society Hall Red is in the Sierra Red group, the variability of surface colors is great, ranging from brown and maroon through red, orange-red, orange, and yellow-orange. By the end of the Cocos complex at about AD 250-300 the slip colors and textures of Society Hall Red and most of the other ceramic types are approaching the glossiness of Classic period ceramics.

At Cuello, by the end of the Cocos complex there is a great deal of experimentation in the use of the Society Hall wiping technique and dichrome and trichrome slips reminiscent of Classic period polychromes, although technologically and stylistically far less sophisticated. There is also the introduction of vessel forms like Classic period forms, including a basal flange bowl with ring base on a Sierra Red pot. It seems likely that at Cuello, and perhaps at other northern Belize sites, old traditions may have died hard and Chicanel sphere pottery continued to be manufactured long into the Classic period, when Peten sites have already embarked on the polychrome tradition. The evidence from some other northern Belize sites such as Cerros (Robertson 1980), Colha (Adams and Valdez 1981), and Nohmul (Kosakowsky, current research) suggests that Cuello may have been something of a cultural backwater during the very Late Formative.

It is clear that all northern Belize sites, including Cuello, belong in the Chicanel ceramic sphere, although some of the more prominent northern Belize sites such as Cerros, Santa Rita, Lamanai, Colha, and Nohmul, owing to their geographic locations on the rivers or as part of the larger trading networks, more closely parallel the ceramic development in central Peten. Certainly there is an increasing trend toward standardization of ceramic manufacture among sites in northern Belize, and with sites in the rest of the Maya lowlands from the beginning until the end of the Formative period.

In summary, identification of early Swasey sphere pottery is as yet confined to the site of Cuello beginning about 2000 BC and ending about 1200 or 1100 BC. The introduction of ceramics of the Bladen/Xe sphere at Cuello

at about 1200 or 1100 BC marks the beginning of known affiliations with many other sites in northern Belize and a few in the Peten and Pasion River area. Broad regionalization in ceramic styles continues throughout this period, with only some increasing similarities beginning with the Mamom sphere and the Lopez complex at Cuello, at about 700 BC. By 400-300 BC, the beginning of the Chicanel ceramic sphere, and the Cocos complex at Cuello, the ceramic assemblage from one site is often virtually indistinguishable fron any other in the Maya lowlands. By the end of the Formative period at about AD 250 to 300, Cuello continues to manufacture Chicanel-like pottery, with the Classic period ceramic traditions slowly being adopted. Cuello seems to distinguish itself both at the beginning of its ceramic sequence by the presence of a heretofore unknown and exceptionally early ceramic assemblage, and at the end of the Formative period by virtue of its being something of a cultural backwater.

Acknowledgments

Research on the Cuello ceramics was made possible by the generosity of Norman Hammond, director of the Cuello Project, funded by the National Geographic Society, the Wenner-Gren Foundation, the British Museum, and the University of Arizona. The original ceramic typology was developed by Duncan Pring, without whose help the current research would have been impossible. Additional comments and aid have been provided by Pat Culbert, Fred Valdez, Jr., Robin Robertson, and Carol Gifford.

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Appendix A: Munsell Color Notations for the Surface Colors of Cuello Ceramic Types (Listed Alphabetically)*

Ahchab Red-and-buff:	
Variety Unspecified	Buff- 5YR 6/4, 6/6 Red- 2.5YR 5/8
Backlanding Incised:	
Backlanding Variety	10R 4/8
Backlanding Incised:	
Grooved Incised Variety	10R 4/8
Barquedier Grooved Incised:	
Barquedier Variety	10R 4/8
Chacalte Incised:	
Chacalte Variety	5YR 2/1
Chacalte Incised:	
Yo Creek Variety	5YR 2/1
Chicago Orange:	
Chicago Variety	5YR 7/4
Chicago Orange:	
Chucun Variety	5YR 7/4
Chicago Orange:	
Nago Bank Variety	5YR 7/4
Chicago Orange:	
Warrie Camp Variety	5YR 7/4
Chunhinta Black:	
Chunhinta Variety	2.5YR 2/0 2.5Y 2/0, 3/0
Consejo Red:	
Consejo Variety	10R 4/8
Consejo Red:	
Estrella Variety	10R 4/8
Copetilla Unslipped:	
Copetilla Variety	5YR 7/4 7.5YR 7/4
Copetilla Unslipped:	
Gallon Jug Variety	5YR 7/4 7.5YR 7/4

* NOTE: Only the predominant Munsell Color for each type is listed here. For a complete list of Munsell colors see the type descriptions in Kosakowsky 1983.

Copper Bank Incised:	
Copper Bank Variety	2.5YR 5/6, 5/8, 6/4, 6/6, 6/8
Cotton Tree Incised:	
Cotton Tree Variety	5YR 7/4
Cudjoe Red and Unslipped:	
Cudjoe & Unnamed Varieties	10R 4/8
Deprecio Incised:	
Grooved Incised Variety	2.5YR 2/0 2.5Y 2/0, 3/0
Desvario Chamfered:	
Desvario Variety	10R 4/6, 4/8, 5/6, 5/8
Escobal Red-on-buff:	
Variety Unspecified	Buff- 5YR 7/3, 7/4, 8/3 Red- 2.5YR 4/8, 5/8, 4/6, 5/6
Fireburn Red-and-cream:	
Fireburn & Unnamed Varieites	Cream-5YR 6/4, 7/3, 7/4 Red- 10R 4/8
Flor Cream:	
Variety Unspecified	5YR 7/2, 7/4, 8/2, 8/4 7.5YR 7/2, 8/2 10YR 7/1, 7/2, 8/2
Guitara Incised:	
Grooved Incised Variety	10R 4/6, 4/8, 5/6, 5/8
Honey Camp Orange-brown:	
Honey Camp Variety	2.5YR 5/6, 5/8, 6/4, 6/6, 6/8
Joventud Red:	
Palmasito Variety	10R 4/6, 4/8, 5/6, 5/8
Lagartos Punctated:	
Lagartos Variety	2.5YR 4/6, 4/8, 5/6, 5/8 7.5R 4/8 10R 4/8, 5/8
Laguna Verde Incised:	
Laguna Verde & Grooved Incised Varieites	2.5YR 4/6, 4/8, 5/6, 5/8 7.5R 4/8 10R 4/8, 5/8

Formative Ceramic Sequence of Cuello

Lechugal Incised:	
Grooved Incised Variety	5YR 2/1, 2/2 2.5YR 2/2
Machaca Black:	
Machaca & Wamil Varieties	5YR 2/1
Matamore Dichrome:	
Matamore Variety	Red- 2.5YR 4/8, 5/8 and Black- 5YR 2/1 or Cream- 2.5Y 8/2 or Brown- 2.5Y 5/4, 4/4
Muxanal Red-on-cream:	
Lazaro Variety	Cream- 10YR 8/2 7.5YR 8/2 5YR 7/2, 7/3, 8/2, 8/4 Red- 10R 4/6, 4/8, 5/6, 5/8
Paso Danto Incised:	
Variety Unspecified	5YR 7/2, 8/2 7.5YR 7/2, 7/4, 8/2, 8/4
Pettville Red-and-cream:	
Pettville & Unnamed Varieties	Cream- 5YR 6/4, 7/3, 7/4 Red- 10R 4/8
Pital Cream:	
Variety Unspecified	5YR 7/2, 8/2 7.5YR 7/2, 7/4, 8/2, 8/4
Polvero Black:	
Polvero Variety	2.5YR 2/0 2.5Y 2/0, 3/0
Puletan Red-and-unslipped:	
Puletan & Unnamed Varieties	2.5YR 4/6, 4/8, 5/6, 5/8 7.5R 4/8 10R 4/8, 5/8
Quamina Cream:	
Quamina Variety	5YR 8/1, 8/2 7.5YR 8/2 10YR 7/2

Repollo Impressed:	
Variety Unspecified	2.5YR 4/6, 4/8, 5/6, 5/8 7.5R 4/8 10R 4/8, 5/8
Richardson Peak Unslipped:	
Richardson Peak Variety (Cocos)	5YR 6/4, 6/6 10YR 6/1, 6/4 2.5Y 5/2, 6/2
Richardson Peak Unslipped:	
Richardson Peak Variety (Lopez)	5YR 6/1, 6/6 10YR 5/1, 6/3 2.5YR 5/2
Sapote Striated:	
Variety Unspecified	5YR 6/1, 6/2, 6/3, 7/1, 7/2
Sierra Red:	
Ahuacan Variety	2.5YR 5/8 5YR 6/8
Sierra Red:	
Big Pond Variety	10YR 4/6, 4/8
Sierra Red:	
Sierra Variety	2.5YR 4/6, 4/8, 5/6, 5/8 7.5R 4/8 10R 4/8, 5/8
Society Hall Red:	
Bound to Shine Variety	2.5YR 3/2, 4/4, 4/6 5YR 4/4, 5/4, 5/6, 6/6, 6/8 7.5YR 5/6, 6/8
Society Hall Red:	
Society Hall Variety	2.5YR 5/8, 6/8 10R 5/6, 5/8 5YR 5/6
Society Hall Red:	
Unnamed Dichrome Variety	one side same as Bound to Shine, other side same as Society Hall variety

Formative Ceramic Sequence of Cuello

Tower Hill Red-on-cream:	
Tower Hill & Unnammed (Resist) Varieties	Cream- 5YR 8/1, 8/2 7.5YR 8/2 10YR 7/2 Red- 10R 4/8
Union Appliqued:	
Variety Unspecified	2.5YR 4/6, 4/8, 5/6, 5/8 7.5R 4/8 10R 4/8, 5/8
Yotolin Pattern Burnished:	
Variety Unspecified	10R 6/1, 6/2, 4/1, 4/2

3

The Ceramic Sequence of Kichpanha: 1979-1985 Seasons

Kathryn V. Reese and Fred Valdez, Jr.

Excavations and surface collections at the small ceremonial center of Kichpanha, Belize, have been conducted by members of the Colha Project and subsequently by the members of the Kichpanha Project beginning in 1979 (Gibson 1982, 1985; Kelly 1980; Reese and Valdez 1984; Shafer 1982). A basic outline of the site's ceramic sequence is now apparent from the combined seasons' excavations.

The sequence begins with an early Middle Preclassic ceramic phase and continues uninterrupted through the Late Preclassic. A seeming hiatus occurs during the Early Classic with the sequence continuing again during the Late Classic. The sequence terminates with a veneer of Postclassic material. This paper details the Kichpanha ceramic sequence as it now stands after several seasons of excavation, with comments on the position of Kichpanha in the regional ceramic interaction sphere.

Traditional propriety for nomenclature practiced in the type-variety-mode classification system calls for the establishment of new complex names for each site (Willey, Culbert, and Adams 1965). However, given the abundance of complex names currently existing in the literature and the overwhelming similarities between the ceramic sequences from Colha and Kichpanha, it was decided to adopt the complex names from Colha when applicable to define the various ceramic phases at Kichpanha. Should significant differences become apparent with examination of subsequent ceramic materials from either site, then the creation of complex names for the Kichpanha sequence would become more feasible.

Bolay Complex (Xe Sphere--Early Middle Preclassic)

During the excavations of a small housemound, evidence of an early Middle Preclassic occupation was

encountered. The ceramics of this phase seem to possess many of the characteristics of the Bladen complex from Cuello (Kosakowsky 1983) and the Bolay complex from Colha (Valdez and Adams 1982). The major monochrome slipped group of this phase is the Consejo group, however Joventud Red is also present, though in statistically small amounts.

Because of strong modal ties to ceramics of the Xe sphere and a possible relationship between Consejo Red and Huetche White (Kosakowsky 1983; Kosakowsky and Valdez 1982; Valdez and Adams 1982), the precedent set by Cuello and Colha is followed whereby this early Middle Preclassic phase at Kichpanha is tentatively placed within the Xe sphere. Stratigraphically this occupational level lies directly beneath a level that has been identified as early facet Mamom. This particular admixture of types was isolated by Kosakowsky (1983) in the sample from Cuello with dates that appear to be quite early. Presently there is no evidence to support such early dates for this phase at Kichpanha, indicating a later occupation associated with these types than that noted at Cuello. This aligns well with the sequence defined for Colha (Valdez and Adams 1982). This identification is currently based on a small sample; therefore all statements should be considered tentative and subject to change with further excavations. However, should this admixture of types prove more widespread throughout Kichpanha and the immediate area of Cuello, Colha, and Kichpanha, it is suggested that it be considered a regional variation of the Xe sphere with the Consejo group reflecting the major monochrome utility ware in the area.

Chiwa Complex (Mamom Sphere--Middle Preclassic)

The Chiwa complex at Kichpanha has been divided into an early and late facet.

Early facet. The principal types of the early facet include Chicago Orange, Joventud Red, and Richardson Peak Unslipped. This phase is characterized by the gradual replacement of the Consejo group and Copetilla Unslipped type by the Joventud group and Richardson Peak Unslipped type as the major utility ceramics of this period.

This material was distinguished as a facet within the Chiwa complex because of the replacement of the major utility groups and because of the introduction of new modes, including chamfering, basal breaks, and double-line breaks. In general there is a trend toward more complicated composite silhouettes. These characteristics define this complex at Kichpanha as falling well within the traditional Mamom sphere as originally identified by Smith (1955) at Uaxactun. It is suggested that these

innovations in the ceramic assemblage during this period reflect a closer affiliation with the Peten area.

Late facet. The late facet of the Chiwa complex is transitional between the Mamom sphere and the Chicanel sphere with characteristics of both spheres present. The Joventud Red ceramic group remains in the archaeological record; however the forms change. Walls are thicker, tear-drop shape rims are more common, and medial flanges also appear. The Sierra group is also introduced during this phase. One type encountered during this phase demonstrates a Joventud Red slipped interior and a Sierra Red exterior, usually in a vessel form more commonly found within the Sierra group. Richardson Peak remains the principal unslipped type during this facet. The introduction of the Sierra group and an increasing standardization of surface color and vessel form are also characteristic of the late facet.

The Mamom ceramic sphere throughout the Maya lowlands in general is characterized by regional variation. The typological and modal cohesion apparent in the ceramic assemblages from Cuello, Colha, and Kichpanha during this phase may demonstrate one such regional variation, with some minor site-to-site differences noted. Within Kichpanha, no distinctions are noted among the ceramic assemblages from the various structures that might reflect social stratification. The late facet appears to represent a relatively stable period in the area with little outside influence demonstrated in the Kichpanha sample beyond the obvious similarities noted to Colha and Cuello mentioned earlier. It is suggested that ceramic production was on the household level with little surplus created.

Blossom Bank (Chicanel Sphere--Late/Terminal Preclassic)

The Blossom Bank complex has also been subdivided into two facets at Kichpanha.

Early facet. The early facet of the Blossom Bank complex at Kichpanha is characterized by a total replacement of the Joventud group by the Sierra group. The Matamore (dichrome) group is first encountered during this facet, and Chicago Orange and Richardson Peak Unslipped also continue. Technologically, the pottery has a harder, glossier surface finish and appears to be better fired than materials from preceding phases. The standardization that is reflected in the earlier manifestations of the Sierra group increases greatly during this phase, and may be suggestive of a technological as well as organizational change in ceramic production in the Maya lowlands.

Although household production still accounts for a majority of the ceramics produced during this facet, it is hypothesized that a ceramic surplus was produced in certain key areas. With an increase in population described for the Maya area during the Late Preclassic, a creation of a ceramic surplus for exchange may have provided a viable alternative for communities with limited access to good argricultural soils (Harrison 1978; Rice 1981; Turner 1983). The lithic craft specialization noted during this period at the site of Colha (Hester 1979; Hester et al. 1980, 1982; Roemer 1984), may reflect the beginning of an exchange of several different commodities.

Standardization of vessel form would have greatly facilitated trade and eased problems associated with transportation by allowing stacking and nesting of the vessels (Robertson-Freidel 1980; Sabloff and Rathje 1975). Although it is doubtful that a significant proportion of the Kichpanha ceramic types were imported during this period, the trend toward standardization can be seen in the locally produced wares. Richardson Peak Unslipped and Chicago Orange remain as important types in the archaeological record; however various attributes change to approximate those found within the Sierra group. This is especially noted in various rim treatments. Within the Sierra group itself, the standardization of vessel form and surface treatment is particularly well defined in the type Society Hall Red. This may be viewed as possible evidence for incipient craft specialization. However, even with increased trade and communication between sites in the region, there exists little differentiation among the ceramic assemblages within Kichpanha. This reflects a lack of distinguishable social stratification as indicated by the ceramics, as well as limited participation in the regional trade network by this small ceremonial center.

Late facet. Late facet Blossom Bank ceramics at Kichpanha have been identified as corresponding in time to the Terminal Preclassic/Protoclassic periods. The principal types identified for this phase include Sierra Red, Society Hall Red, Matamore Dichrome, Chicago Orange, and Richardson Peak Unslipped.

This facet is contemporaneous with the Floral Park sphere complex found at Colha (Valdez and Adams 1982). The Kichpanha sample does demonstrate influences from the Floral Park sphere with an emphasis on new vessel forms and rim treatments. This may further support the contention that vessel form is more sensitive as an indicator of social change than surface treatments (Thompson 1939; Demarest 1981, 1984). The new modes introduced into the Kichpanha sample include tetrapodal vessels with hollow mammiform legs and rattles and nubbin

supports, and grooved hook rims.

Although these modes are generally included within the Floral Park sphere, they are all found on Chicanel sphere ceramic types at Kichpanha, and there is a notable lack of Floral Park (i.e. "Protoclassic") surface and decorative treatments. Specifically there are no examples of Ixcanrio Polychrome, Aguacate Orange, or Usulutan decorative treatments. There is no replacement of the major monochrome group, Sierra Red, with that of the Floral Park sphere, Aguacate Orange.

The late facet of the Blossom Bank complex is characterized by an overall increase in construction activity at the site. The main ceremonial complex was expanded and a network of sacbes was built joining several house structures and plazuela groups to the main pyramid. In structure 35, a small plazuela group, a Society Hall Red bucket-shaped vessel was found with a "kill" hole punched in the bottom. The excavations of a bulldozed mound produced several late facet Chicanel sphere mortuary vessels with tetrapod mammiform and nubbin supports. This expansion of Kichpanha construction and evidence for social stratification indicates that Kichpanha was participating in the regional exchange network; at best, however, Kichpanha's involvement remained peripheral. Outside influences and trade items in the ceramic assemblage all are found within a mortuary context.

Tzakol Sphere (Early Classic)

There is little indication of Early Classic Tzakol sphere ceramics in the Kichpanha sample. Ceramics identified as Early Classic types were all recovered by surface collection during the 1981 season. Because no ceramic types have been identified that demonstrate transitional attributes between Late/Terminal Preclassic and Late Classic types, this period is viewed as a hiatus in the Kichpanha ceramic sequence. This, however, does not preclude occupation of the site during the Early Classic time period.

Bomba Complex (Tepeu 2-3 Sphere--Late/Terminal Classic)

Late and Terminal Classic types are associated at Kichpanha and placed within the Bomba complex. Few distinctions have been noted in the sample that would cause a division into facets. This may be due to a small sample from this period.

The major types that occur in the Tepeu 2-3 phase include Subin Red, Tinaja Red, Palmar Orange Polychrome, Rubber Camp Brown, and Tu-Tu Camp Striated. Modes that first appear during this phase include beveled rims, ring supports, and plate forms. Technologically, the ceramics

appear to have been fired at a higher temperature and to possess a harder slip.

The Bomba complex ceramics of Kichpanha are standardized and of a definite domestic nature. There is no evidence for differential ceramic assemblages that would indicate social stratification within Kichpanha during the Late Classic. Very few Late/Terminal Classic ceramics were recovered from the main ceremonial center, although a Late Classic occupation was encountered in two plazuela groups connected to the main pyramid by a sacbe. Several Late Classic burials with associated mortuary vessels have also been excavated. These vessels were identified as Subin Red, Palmar Orange Polychrome, Rubber Camp Brown, and Zacatel Cream Polychrome. With minor exceptions, these types have all been previously recovered from domestic contexts. Their use as mortuary vessels may suggest a lack of access to more "ceremonial" types by the Late Classic residents. Because of a lack of distinct "ceremonial" ceramic types at Kichpanha as well as an apparent abandonment of the main ceremonial center, the Late Classic period is not viewed as one of growth at Kichpanha.

However, the analyzed ceramics indicate that the standardization developed during the Late Preclassic was expanded and intensified during the Late Classic. A greater number of types and varieties in the Kichpanha sample demonstrate characteristics such as standardization of vessel form, surface treatment, and decorative techniques, all associated with craft specialization (Rice 1981). The fact that a greater number of these types were reaching Kichpanha may indicate a possible intensification of ceramic trade throughout the region. Kichpanha's participation in the regional ceramic trade network remained centered on the exchange of utilitarian vessels, however.

Postclassic (Sphere Unidentified)

Only a few Postclassic ceramics have been recovered from Kichpanha. All were unidentifiable reds, badly weathered. It is concluded, therefore, that an actual Postclassic occupation of the site is not represented in the sample and no sphere affiliation is assigned to this period.

SUMMARY AND CONCLUSIONS

Several trends may be noted within the Kichpanha sequence. First, transitional periods at the conclusion of each Preclassic ceramic sphere are characterized by a rapid adoption of new vessel and rim forms followed by gradual replacement by the major monochrome group of the

new sphere. Second, standardization of ceramic forms and surface treatments can be identified on the local level and increases throughout the sequence. Third, Kichpanha seems to remain on the periphery of the ceramic trade network throughout the entire sequence with a noticeable lack of "elite" types in the sample.

To conclude, the ceramic sequence presented represents combined collections from several seasons at Kichpanha; however the sample size remains small (Reese 1985). Therefore, all statements must be considered tentative and subject to change with subsequent excavations.

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4

Putting Together the Pieces: Maya Pottery of Northern Belize and Central Peten, Guatemala

Arlen F. Chase and Diane Z. Chase

Upper level Maya ceramic analysis involves the comparison of a specific site sequence with those extant in other parts of the Maya area. These comparisons are usually carried out through the use of the concept of a "ceramic sphere" which "exists when two or more complexes share a majority of their most common types" (Willey, Culbert, and Adams 1967:306). The implication of membership in a ceramic sphere is that two or more complexes share "broader cultural interaction patterns common to their respective sites or locality" (Ball 1976:323). The ceramic sphere concept is synthetic in nature. By its very definition, it is meant to combine diverse attributes, modes, and forms into a whole that can then be placed in a specific geographic region. However, many if not all of the "broader cultural interaction patterns" are, in fact, lost to the geographic aspect of the ceramic sphere.

The goals of Maya ceramic analysis are: first, the description of Maya pottery in terms that are useful to other researchers; second, the construction of a site sequence; and third, an explanation of the behavior behind the pottery. The first goal, simple description, is accomplished through the use of the type-variety-mode method of ceramic analysis. The second goal, the construction of a site sequence, establishes the chronology of a site and, to some extent, its culture history. The third goal, the explanation of behavior, implies the attribution of function to pottery types and the definition of both intra- and inter-site ceramic distributions. In a very real sense, the third goal contrasts with the first, for the simple typological description of pottery is a synthetic exercise stressing similarities while the explanation of the behavior behind that pottery needs to examine the variability that is

hidden within the integrative type-variety-mode system of analysis.

Because of its very nature, the use of the ceramic sphere concept to get at underlying "cultural patterns" is limited. The ceramic sphere emphasizes similarities and not differences; it derives from the ceramic analysis and only vaguely relates to the behavior of the people being analyzed. If the goal of ceramic analysis is ultimately the reconstruction of behavior, then Maya ceramic analysis has been misled by thinking that the ceramic sphere is the most useful integrative level. The merit of interpretations based on the quantification of ceramic remains is also questionable, especially more so since it has been stressed that "ceramic spheres are quantitatively rather than qualitatively defined" (Ball 1976:324). The quantification of ceramic deposits, while useful simply as a relative measure, does not necessarily have anything to do with the underlying culture that produced those deposits for it combines various distinct behaviors and conditions. For example, each ceramic type often produces different breakage patterns. In addition, people at each site may have an unlimited number of relationships with individuals and groups from other sites and regions, yet a site can only be a full member of a single ceramic sphere.

A more useful concept for deriving behavior from the archaeological record and for facilitating meaningful comparisons between sites is the "subcomplex." A subcomplex, as defined by the 1967 Maya ceramic conference, is "a subdivision of a complex that has significance in cultural interpretation other than that of chronological differentiation." With the exception of the Becan ceramic report (Ball 1977:3, 142-150), this exceedingly useful concept has not generally been employed in Maya ceramic studies. Much more than a ceramic sphere, subcomplexes allow the definition of units meaningful to the Maya and a possible interpretation of these Maya behaviors; by their very nature, subcomplexes permit more accurate inter-site comparisons. The most commonly recognized subcomplexes are those comprising caches, censers, and burials, although subcomplexes comprising refuse deposits have also been defined (D. Chase 1982a: 340, 617-639; A. Chase 1983:48-55, 69-70, 136-140). While the prime components of subcomplexes may be ceramic vessels, an important aspect of the term is clearly function and/or context.

Through comparing subcomplexes at different sites, it is possible to gain a better understanding of meaningful connections between them. In spite of the critique that subcomplexes are dependent for their formulation "upon the recovery of functionally specialized contexts" (Ball 1977: 3), it is our contention that the use of subcomplexes will allow Maya ceramicists and archaeologists to develop a

more precise understanding of the nature of Maya society and its organization. The use of subcomplexes in comparing Tayasal and Santa Rita both to each other and to their neighbors reveals much more than a broad sharing of ceramic types between some time periods and not between others.

TAYASAL AND SANTA RITA COROZAL

The sites of Tayasal (A. Chase 1979, 1983, 1984, 1985a) and Santa Rita Corozal (D. Chase 1981, 1982a, 1986; D. Chase and A. Chase 1986) are superficially similar in many respects (see Fig. 1). Both contain ceramic sequences that span the Preclassic through Historic time periods. Both are located near bodies of water and are strategically placed with regard to trade. Both sites are viewed as being on the second tier of a Maya settlement hierarchy. But, Tayasal and Santa Rita Corozal are also very different. Tayasal is characterized by dominance over a 15 km long peninsula termed the Tayasal-Paxcaman zone. This zone has large constructions, a plaza-oriented settlement pattern, and the presence of carved monuments. Santa Rita Corozal extends 4 km along a bluff that rises above Chetumal Bay. This area has few large constructions, lacks carved monuments altogether, and is characterized by a settlement pattern that puts little emphasis on the use of common plazas shared by more than one structure. Yet, the two sites share ceramic types, ceramic groups, and in some cases, ceramic spheres and mortuary subcomplexes.

The ceramic data from the Tayasal-Paxcaman zone (A. Chase 1979, 1983, 1984; A. Chase and D. Chase 1983) and Santa Rita Corozal (D. Chase 1982a, 1984) are also indicative of the difficulties in establishing regional sequences and of the problems with assuming that sites of lesser importance are necessarily subsumed into the ceramic sequences of larger neighbors. It would in fact appear that geographic proximity does not necessarily correspond with an exact ceramic equivalence between sites. In addition, it is not always apparent which sites, whether small or large, are likely to be most representative of an area. This is clearly seen in both northern Belize (Pring 1976; D. Chase 1982a:71-72; A. Chase 1986:123) and central Peten (Culbert 1977:29-30; A. Chase and D. Chase 1983:66) in the variability among the ceramic sequences of neighboring sites. The diversity present in the ceramics and sites of these two regions should be expected given the multitude of complex relationships that must once have existed within Maya society. The meaning behind this variability and, to some extent, the very diversity itself, however, may be completely masked by a punctilious adherence to a synthetic, descriptive ceramic typology.

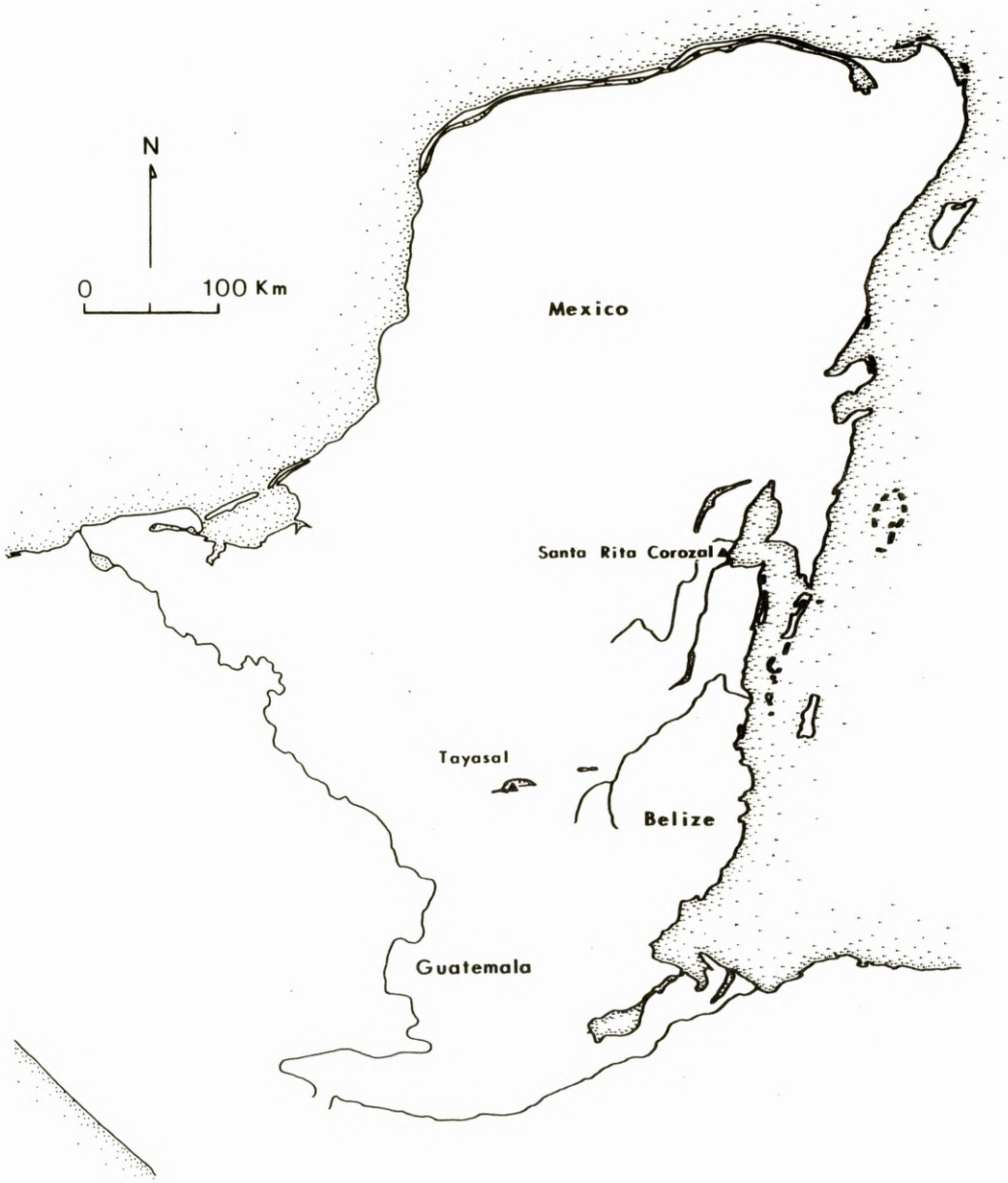

Fig. 1. Map of the Maya area showing the location of Tayasal and Santa Rita Corozal.

Putting Together the Pieces

Thus, it is our contention that even a brief review of the patterns of ceramic variability within certain subcomplexes at Tayasal and Santa Rita Corozal underscores the need to look beyond the ceramic sphere concept in order to understand interactions between and within parts of the Maya realm.

Preclassic

Santa Rita Corozal has Early Preclassic remains. These are similar to Swasey ceramics found 30 km to the south at Cuello, yet they differ in form and surface coloration (D. Chase 1983). An Early Preclassic burial subcomplex has been defined at Santa Rita Corozal and consists of a partially flexed individual accompanied by a single Consejo Red dish (Fig. 2a) placed in the chest area. The Middle Preclassic at Santa Rita Corozal is characterized by a blending of Swasey and Mamom characteristics; unlike Cuello (Kosakowsky 1982:28), no distinct Mamom complex exists at Santa Rita Corozal; rather, there is a smooth transition from the earlier Swasey-related ceramics into the Late Preclassic Chicanel-related types. For the Middle Preclassic, two different burial subcomplexes can be defined at Santa Rita Corozal. The first represents a continuation of the early burial subcomplex in the placement of one or more vessels in the chest area of a flexed individual. The second burial subcomplex is characterized by the use of a single inverted vessel near the head of the individual. Both of these burial subcomplexes see the use of slipped and unslipped Swasey-related and Mamom-related types. No subcomplexes can be defined for the Middle Preclassic in the Tayasal-Paxcaman zone; the zone, however, fits within the Mamom ceramic sphere and the pottery for this period is characterized by a harder paste and glossier slip than the pottery of succeeding complexes.

For the Late Preclassic, both Santa Rita Corozal and Tayasal fall within the Chicanel ceramic sphere. The inclusion of both of these sites within this sphere, however, masks some major differences between the associated complexes. At Tayasal, monochrome slipping in red, black, cream, and a mixture of all three of these slips characterizes the Kax ceramic complex. At Santa Rita Corozal only extremely rarely is something not red-slipped. Santa Rita Corozal also witnesses the heavy use of chocolate pots (Fig. 2b), a form very rarely found at Tayasal. The only Preclassic period burial excavated at the site of Tayasal consisted of a single individual sandwiched in between two Sierra Red vessels. At Santa Rita Corozal, a variety of burial subcomplexes exist, most of them associated with the typical Sierra Red large dish (Fig. 2c). These dishes are placed near or over the heads of flexed individuals throughout the Late Preclassic period; when they cover the entire body, they are often

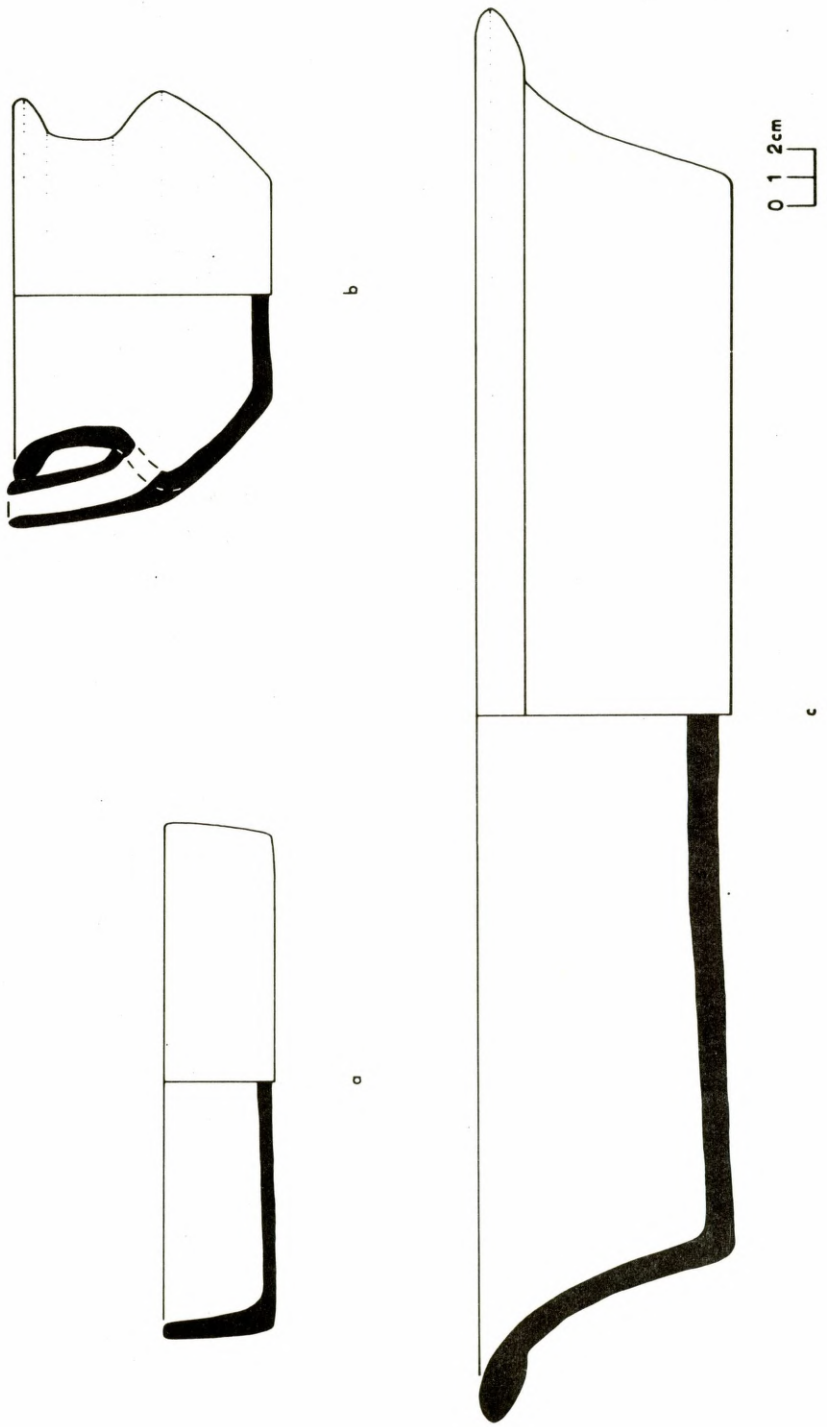

Fig. 2. Preclassic burial vessels from Santa Rita Corozal: a) Consejo Red: San Andres variety from S.D. P12B-26. b) Kuxche Orange: variety unspecified from S.D. P10B-3. c) Sierra Red: variety unspecified from S.D. P10B-8.

found covering other Sierra Red vessels, particularly one or more chocolate pots or dishes in combination with a smaller florero or a jar with high rim.

Protoclassic

The Protoclassic era is represented at both sites, but in very dissimilar ways. Both Santa Rita Corozal and the Tayasal-Paxcaman zone could be considered as peripheral members in the Floral Park ceramic sphere, yet major differences characterize the ceramics from the two areas. In the Tayasal area, the Yaxcheel ceramic complex appears to be a local development out of the succeeding Late Preclassic complex; the Aguacate ceramic group is represented in domestic deposits. Two cache subcomplexes may be defined for the Protoclassic Tayasal region. Both are characterized by lip-to-lip patterns: in one, tetrapod Paxbono Black vessels (Fig. 3a) of local manufacture are placed beneath an altar; in the second subcomplex, Aguila Orange dishes (Fig. 3b) are cached with or without human skulls. Tetrapod plates (Fig. 3c), tetrapod composite forms, and groove-hooked striated vessels may also be potentially defined in a ritual, ceremonial destruction subcomplex for the area. A burial subcomplex consists of monochrome Aguila Orange dishes, many set lip-to-lip, about an extended individual. Santa Rita Corozal also has Protoclassic materials. Extended burials occur for the first time at the site, but the flexed pattern continues as well. In contrast to the Preclassic, vessels are placed in an upright position with the bodies and include derivative Sierra Red chocolate pots, some derivative Polvero Black vessels, Guacamallo Red-on-orange tetrapod plates, and Ixcanrio Polychrome tetrapod bowls (Fig. 4). While Protoclassic pottery exists in other deposits from Santa Rita, the use of Protoclassic horizon markers in interments at Santa Rita contrasts with the use of similar vessels only in no-burial deposits in the Tayasal Paxcaman zone.

Early Classic

Polychromy does not characterize the ceramics of the Tayasal-Paxcaman zone during the Early Classic period, nor do basal flange plates. Instead there is an emphasis on the monochrome Balanza Black and Aguila Orange ceramics. Two burial subcomplexes may be established. In one, a flexed individual is accompanied by either an Aguila Orange plate or one or two monochrome Balanza Black bowls. In the second, an extended individual is accompanied by a host of Aguila Red and Balanza Black pottery which included flanged plates, ring-base dishes or bowls, and tripod cylinders (Fig. 5). Unlike the Tayasal area, Santa Rita Corozal is characterized by Tzakol-style polychrome basal flange bowls; these occur both in refuse deposits and in a burial subcomplex. A cache subcomplex

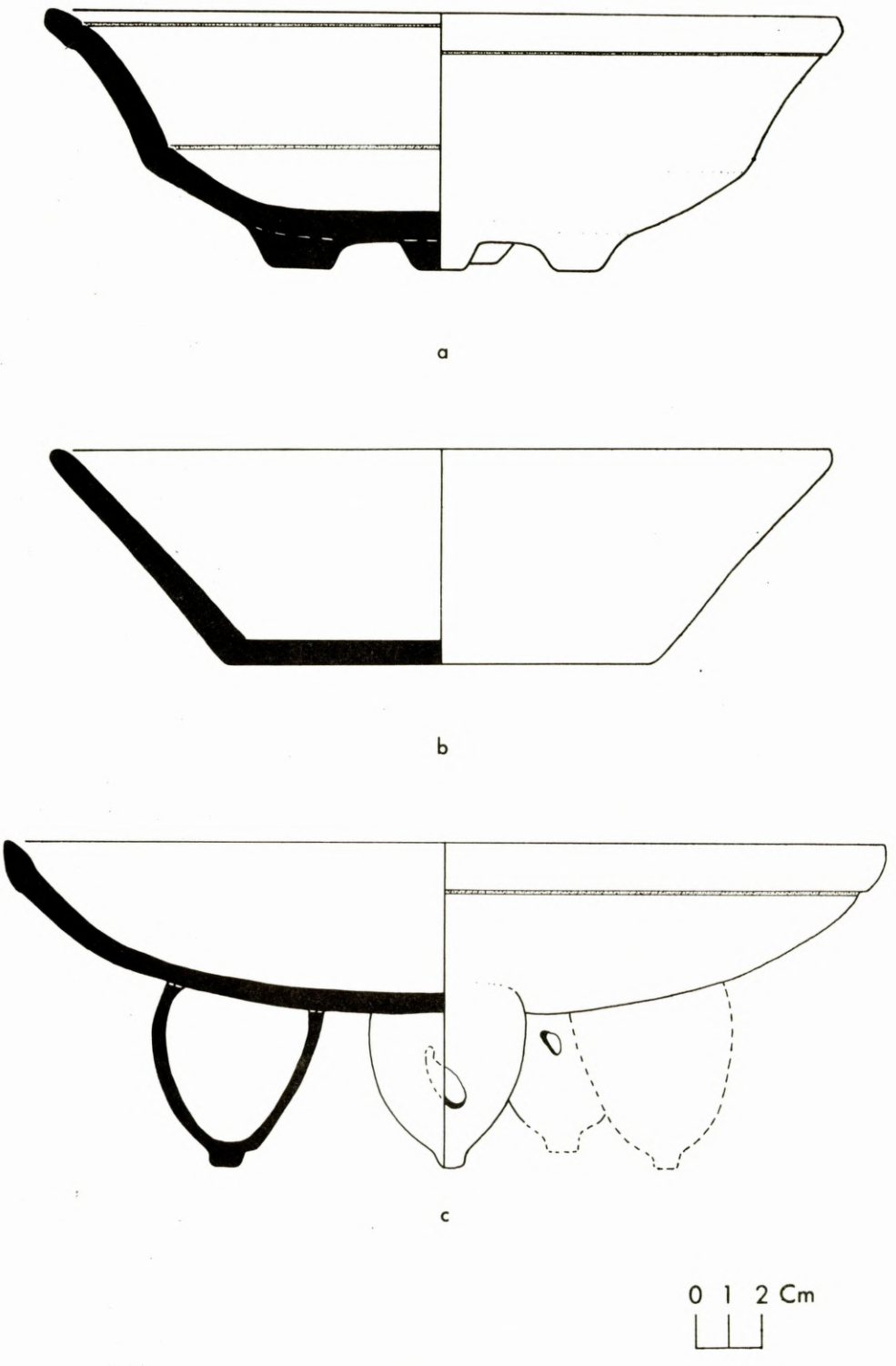

Fig. 3. Protoclassic vessels from the Tayasal-Paxcaman zone: a) Paxbono Black: Paxbono variety from Cache T1C-3. b) Aguila Orange: Aguila variety from Cache T1C-3. c) Aguacate Orange: variety unspecified from P.D. T1E-1.

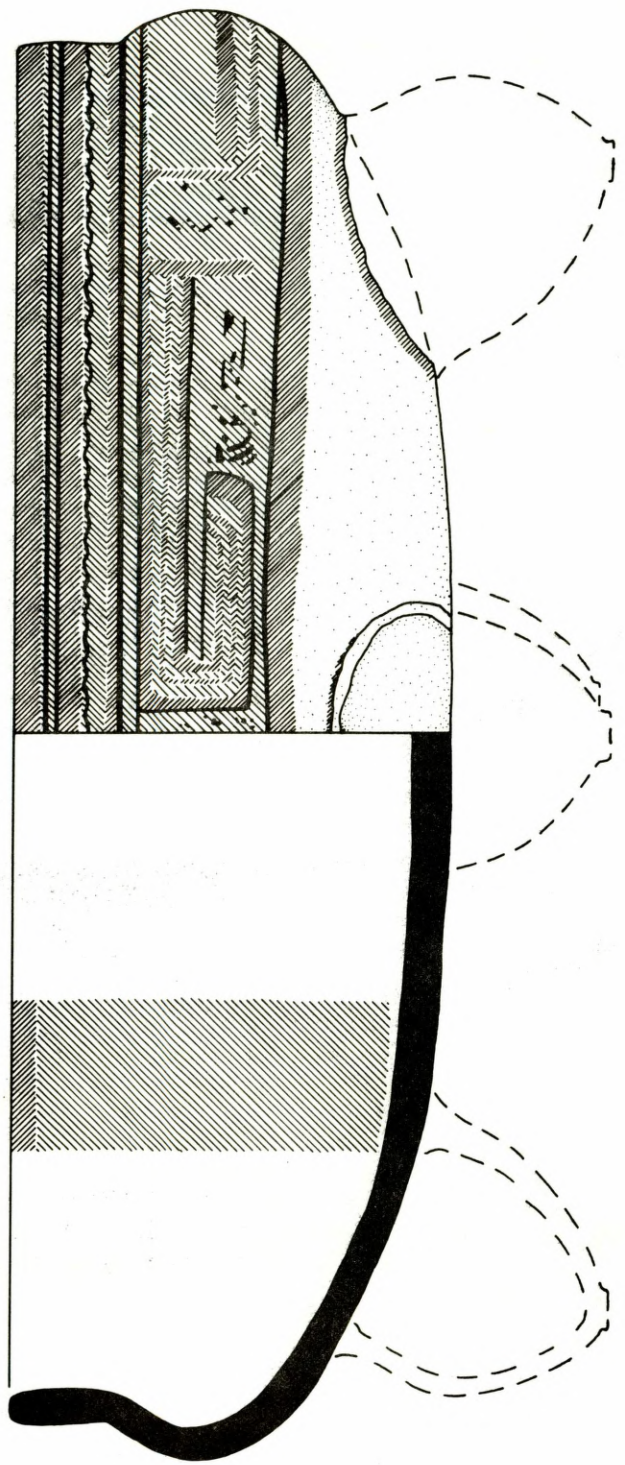

Fig. 4. Protoclassic Ixcanrio Orange Polychrome: variety unspecified burial vessel from S.D. P2J-1 at Santa Rita Corozal.

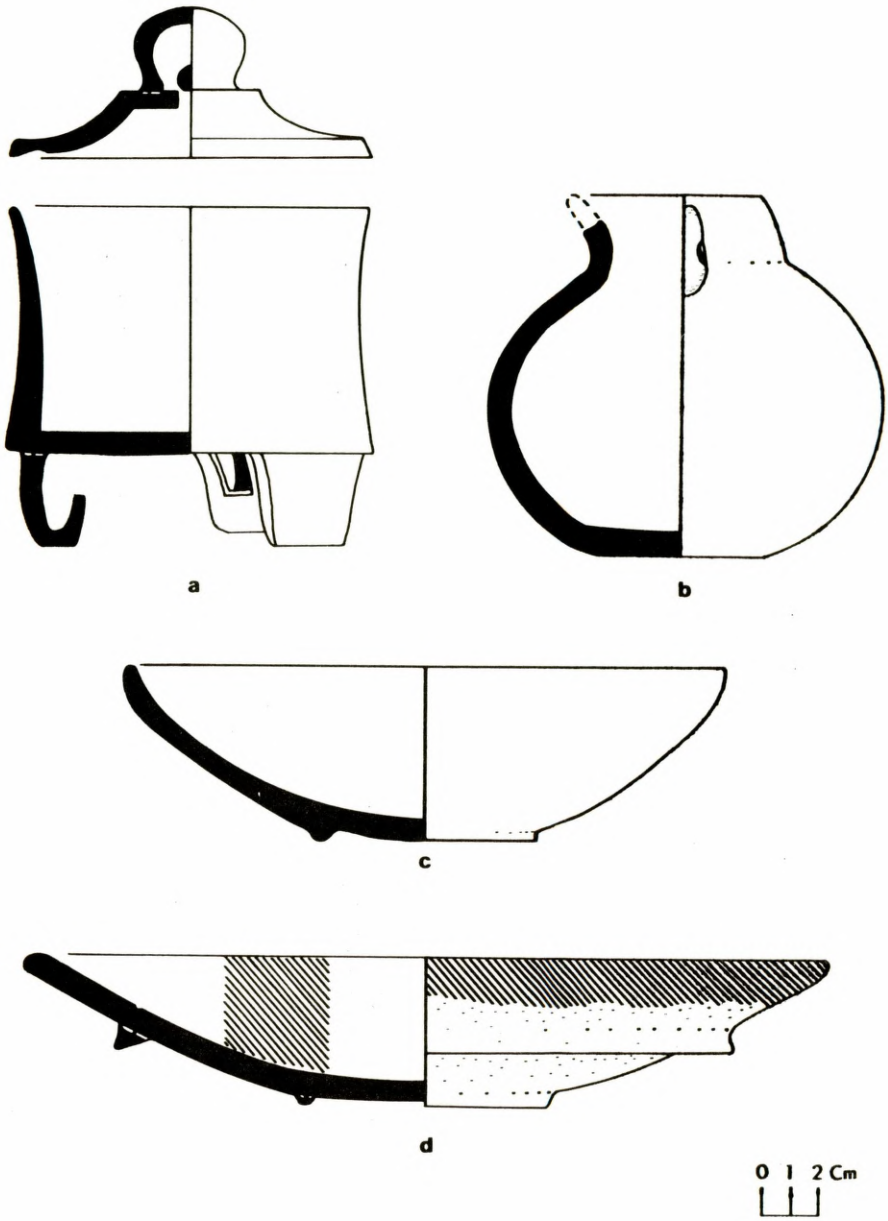

Fig. 5. Early Classic vessels from Bu. T12B-1 at Tayasal: a) Balanza Black: Balanza variety. b) Aguila Orange: Aguila variety. c) Aguila Orange: Oxpayac variety. d) Aguila Orange: Aguila variety.

occurs which is represented by poorly fired, unslipped, large, rounded dishes and cut-out and modeled cylinders. Three Early Classic burial subcomplexes may be defined for Santa Rita Corozal. The first is characterized by a flexed individual whose head is covered by a Dos Arroyos polychrome plate (Fig. 6c). The second is characterized

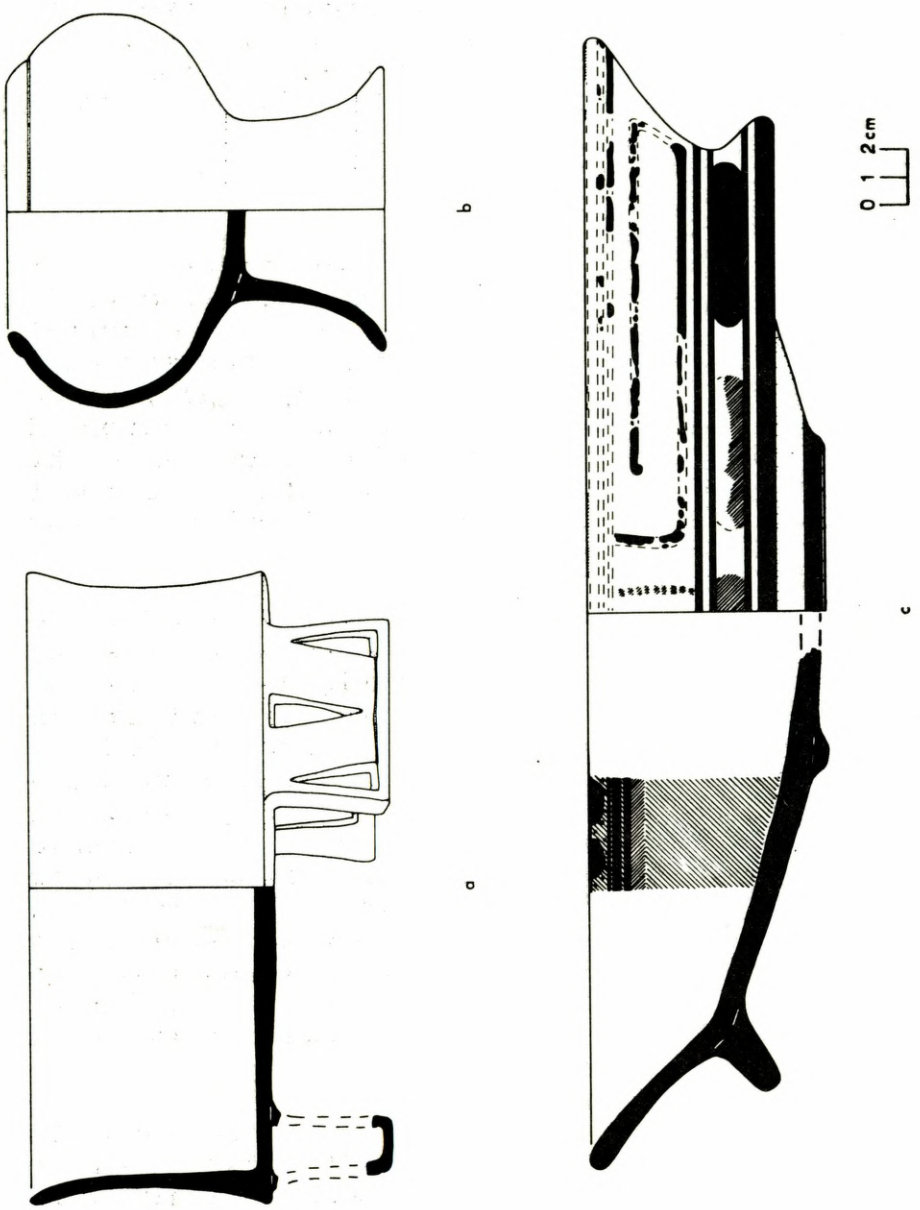

Fig. 6. Early Classic burial vessels from Santa Rita Corozal: a) Balanza Black: Balanza variety from S.D. P2B-5. b) Balanza Black: variety unspecified from S.D. P2B-2. c) Dos Arroyos Orange Polychrome: variety unspecified from S.D. P13B-4.

by an extended individual associated with polychrome bowls and inverted bowls covering extra skulls. The third is characterized by an extended individual accompanied by polychrome plates, cylinder tripods (Fig. 6a) or pedestaled bowls (Fig. 6b), and other bowl forms. The third Santa Rita burial subcomplex is very comparable to the ones found in the Tayasal-Paxcaman zone and is indicative of elite ties in the belief systems between the two regions. These data would indicate that the elite of both Tayasal and Santa Rita were encompassed within the same social network, while the non-elite followed other, more localized, patterns.

Late Classic

During the Late Classic, any similarities that existed between the Santa Rita Corozal and Tayasal ceramic sequences have disappeared. At Santa Rita, two burial subcomplexes may be defined. The first consists of a flexed individual whose head is covered by a polychrome plate (Fig. 7a); the second consists of an extended individual whose head is either covered or accompanied by a bowl (Fig. 7b). While the plates are within the local fineware tradition, the bowls include both local types and tradewares.

The Late Classic period at Tayasal may be subdivided into two parts. For the earlier part of the Late Classic, one burial subcomplex is characterized by flexed individuals with Molina Black jars while another is characterized by extended individuals accompanied by Saxche Orange Polychrome unfooted or footed dishes and Saxche Orange Polychrome rounded deep bowls (Fig. 8a). In the transition between the earlier and later Classic period at Tayasal, the deep rounded bowl may be replaced either by a rounded-bottom bowl (Fig. 8b) and/or a cylinder vase. Two cache subcomplexes may be established for the Tayasal-Paxcaman zone during the early part of the Late Classic period: the first consists of miniature vessels with lids; the second contains tecomate-form bowls (Saxche Orange and Molino Black).

The later part of the Classic period in the Tayasal-Paxcaman zone sees the presence of two burial subcomplexes. In the first, an extended individual is buried with a single bowl under the head. In the second, an extended or partially flexed individual is accompanied by at least one tripod plate and one or more polychrome bowls (Fig. 8c); one of the bowls is always beneath the skull. This second Late Classic burial subcomplex may be faceted for an early version of it includes a cylinder vase. A Late Classic cache subcomplex consists of a polychrome cylinder vase and tripod plate. A generalized censer complex for Late Classic Tayasal area emphasized tall modeled and flanged cylinders. Late Classic refuse

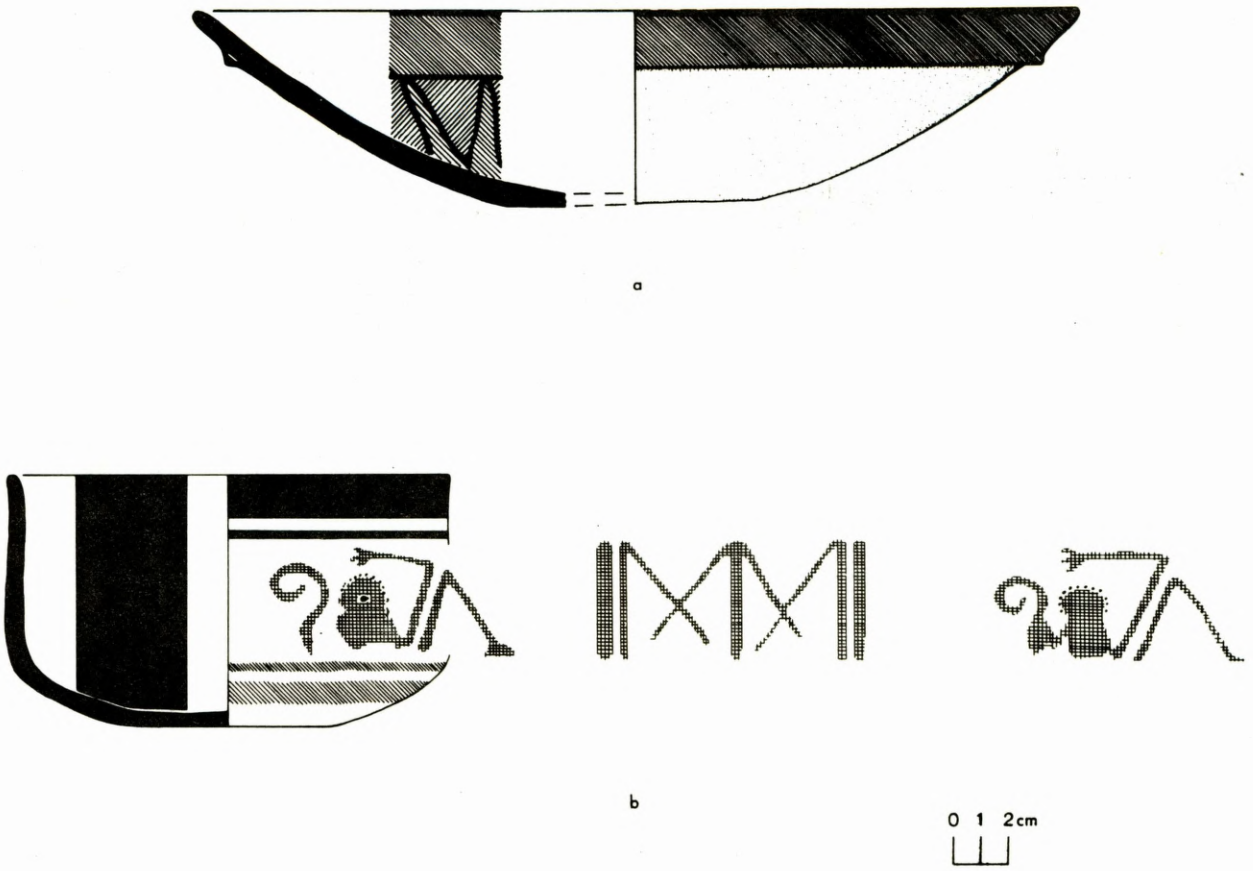

Fig. 7. Late Classic burial vessels from Santa Rita Corozal. a) Miguel Polychrome: Miguel variety from S.D. P37C-1 (interior design shown in D. Chase and A. Chase 1986: 13). b) Campesino Brown on cream: Campesino variety from S.D. P21A-1.

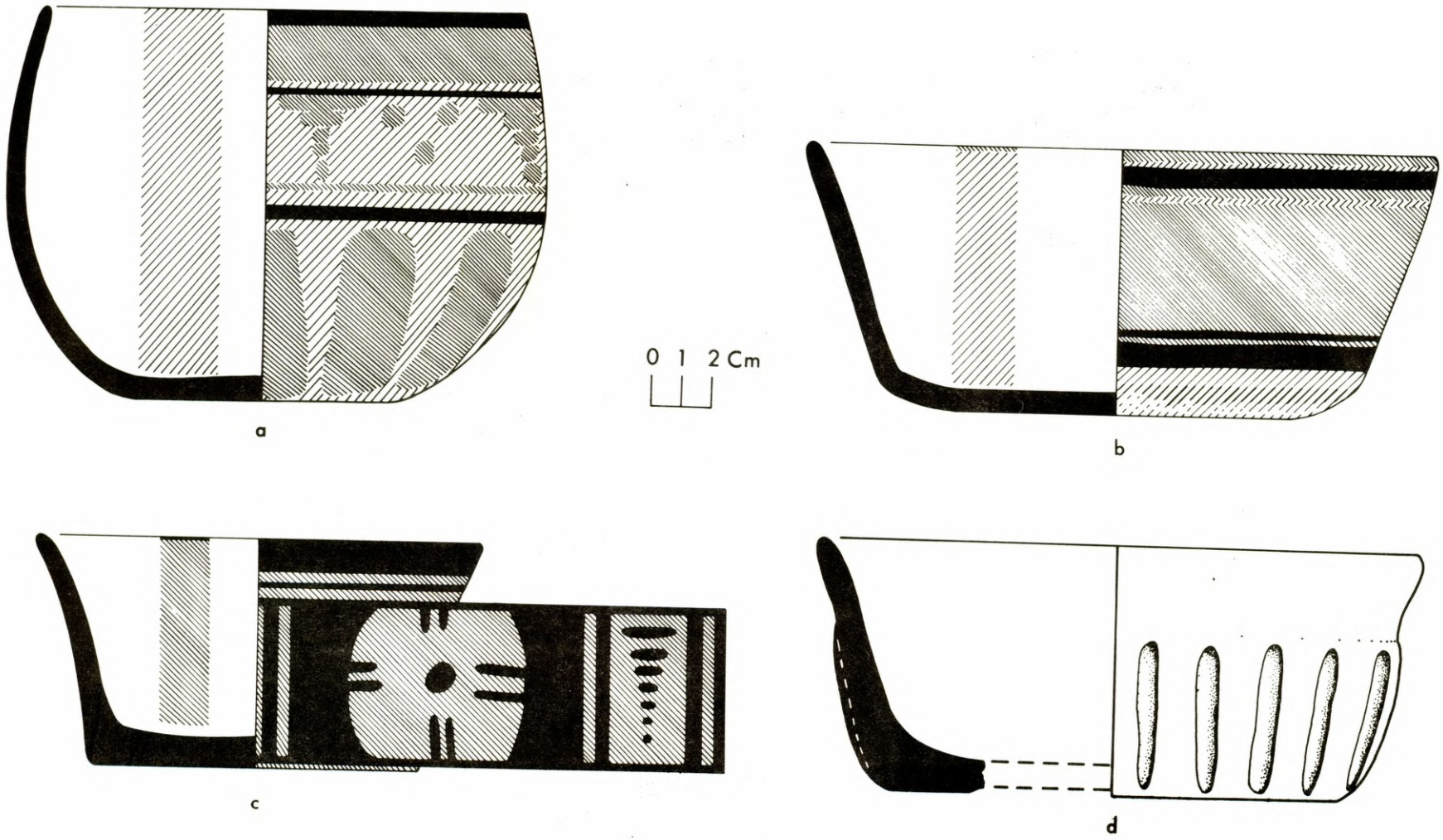

Fig. 8. Late Classic vessels from the Tayasal-Paxcaman zone: a) Saxche Orange Polychrome: Saxche variety from Bu. T2A-5. b) Seibal Buff Polychrome: variety unspecified from Bu. T16B-1. c) Yuhactal Black-on-red: variety unspecified from BU T16D-1. d) either Chilar or Tenaja Fluted: variety unspecified from Deposit 1C-1.

deposits from the Tayasal-Paxcaman zone also tend to emphasize a variety of bowl forms (Fig. 8d). It is interesting to note that in spite of major differences between the Late Classic ceramics of Tayasal and Santa Rita Corozal, both sites contain mortuary subcomplexes that emphasize extended burials with a focus on single bowl forms; this may be indicative of a shared ritual belief system.

Terminal Classic/Early Postclassic

The end of the Classic period at Santa Rita Corozal is marked by the widespread appearance of double-mouthed waterjars (Fig. 9a), both Thin and Puuc Slate wares, trickle wares, and Achote Black. Achote Black (Fig. 9b) and Kik Red group bowls (see D. Chase 1982b) occur in extended burials. While it is evident that there is heavy population at Santa Rita Corozal, at least as represented by the pottery, it is also likely that all of the related subcomplexes for this era have not been found. It is suggested that most burial patterns underwent radical change in the transition from the Classic to the Postclassic. Ceramically, Santa Rita Corozal sees strong Yucatec influences in terms of slatewares and trickle wares during his period. Tayasal witnesses the continuation of the Late Classic tradition into its initial Postclassic period. The Terminal Classic period is characterized by a continuation of Late Classic period mortuary patterns. These include both the inclusion of multiple polychrome vessels of bowl and plate form (Figs. 10a and 10c) with a single extended individual and the inclusion of a single bowl, usually Pepet Incised (Fig. 10b), beneath the head of the extended individual. Additionally, Augustine Red ceramics are introduced into the Tayasal region. A tripod plate (Fig. 10d) occurs at the side of an extended individual in the only interment at Tayasal containing Augustine ceramics. An Augustine period cache subcomplex consists of a foreign Plumbate jar tradeware. An Augustine related censer subcomplex emphasized large unslipped pedestaled dishes. It has been previously suggested that a derivative Classic tradition and the new Augustine tradition existed together for some period of time in the Lake Peten area (A. Chase 1985c).

Middle and Late Postclassic

In the Tayasal-Paxcaman zone, the initial introduction of Augustine Red ceramics and Nohpek short rimmed ollas is followed by a period of local experimentation that leads to the appearance of Paxcaman Red ceramics during the Middle Postclassic period. During the Middle Postclassic, extended burials still continued in the Tayasal area; in these the body was burned in situ and sometimes accompanied by small high necked jars,

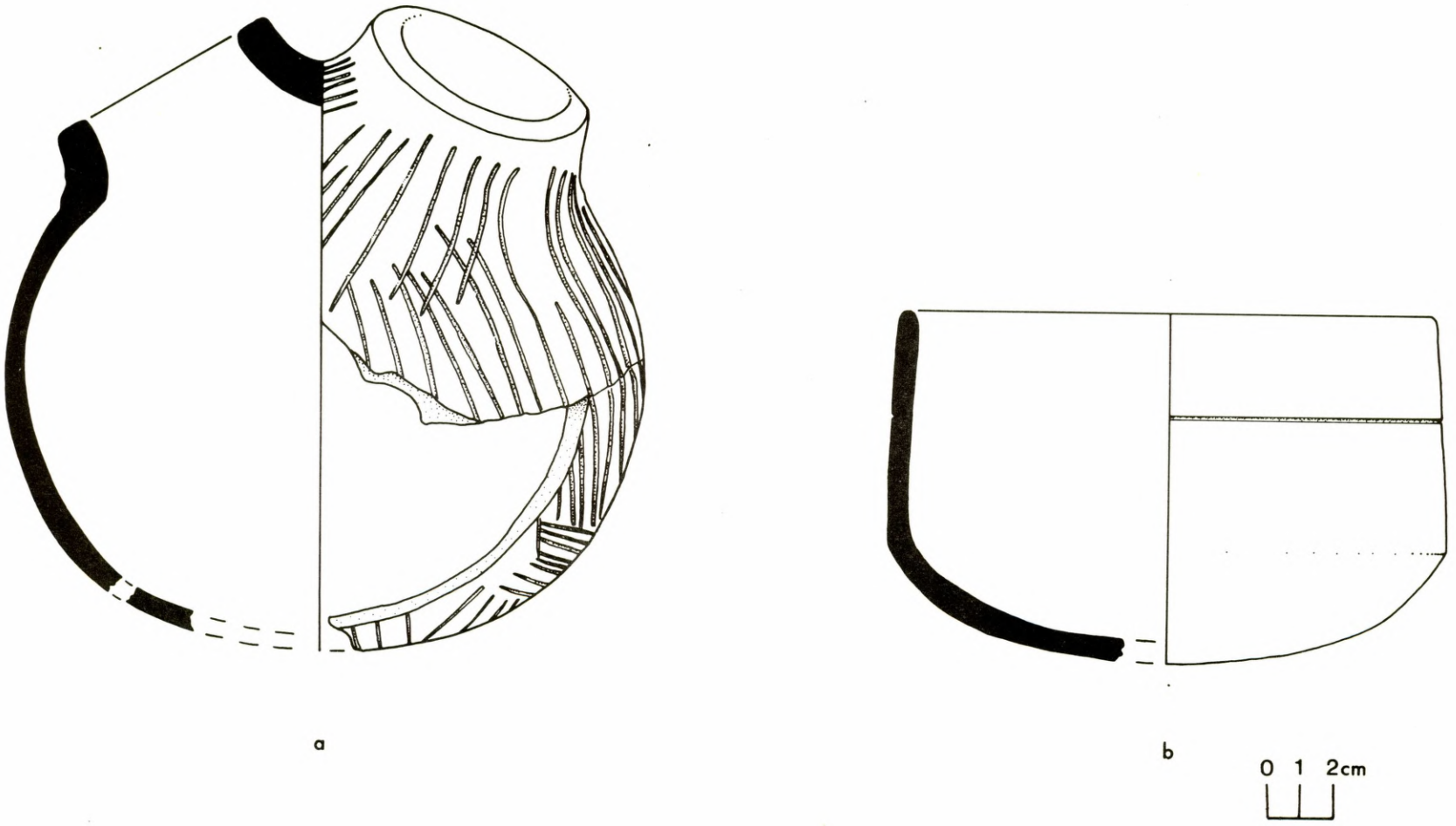

Fig. 9. Terminal Classic/Early Postclassic vessels from Santa Rita Corozal: a) Buyuk Striated: variety unspecified from Deposit 2E-1. b) Cubeta Incised: Ekolen variety from S.D. P21A-2.

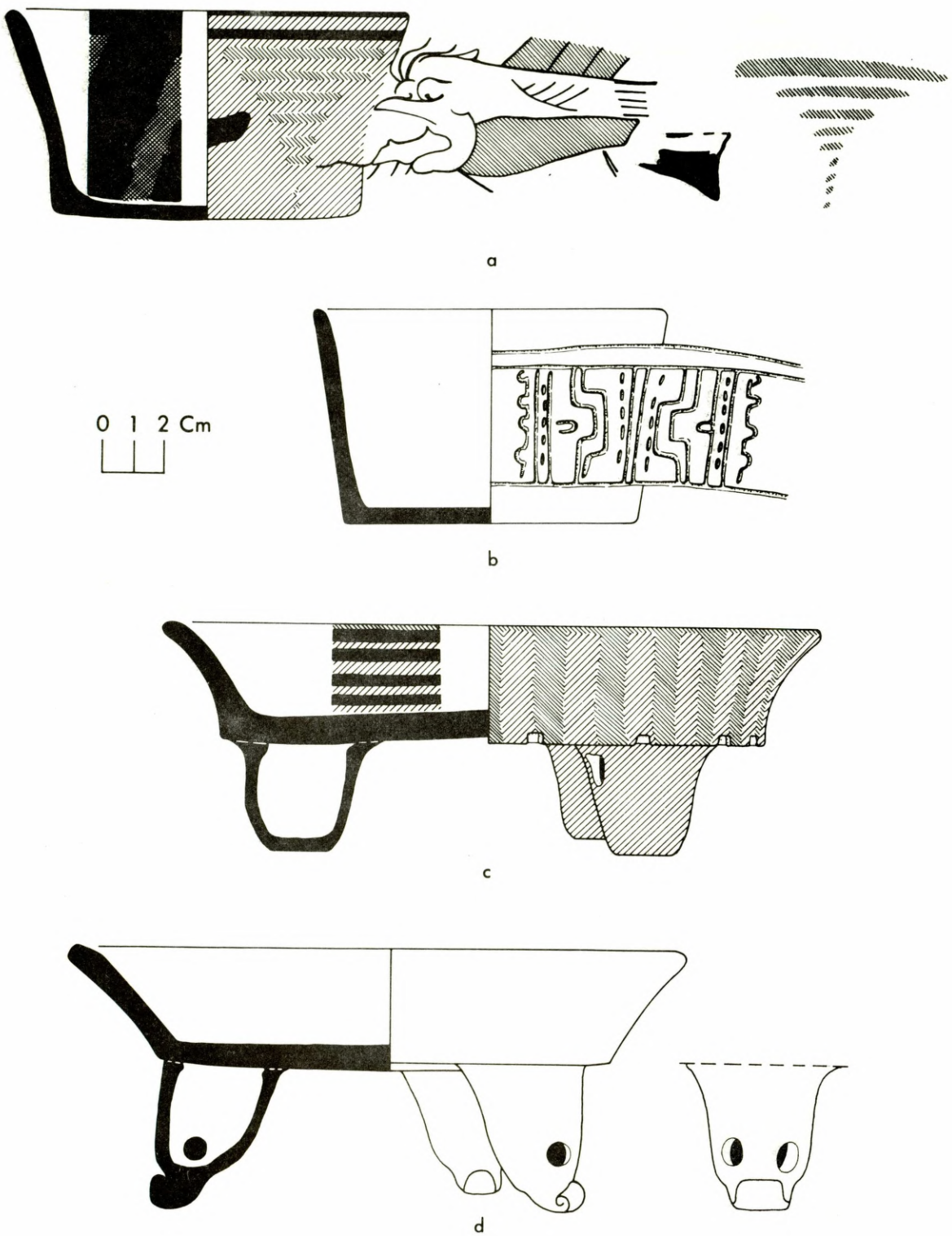

Fig. 10. Terminal Classic/Early Postclassic vessels from Tayasal: a) Danta Orange Polychrome: variety unspecified from Bu. T7B-2. b) Pepet Incised: variety unspecified from Bu. T30PP-1. c) Danta Orange Polychrome: variety unspecified from Bu. T7B-2. d) Augustine Red: Augustine variety from Bu. T9I-2.

either of local (Fig. 11b) or foreign (Plumbate) manufacture. A censer complex consists of filleted ollas and pedestaled vases (Figs. 11a and 11c). Late Postclassic burials in the Tayasal area were flexed and do not appear to have been accompanied by objects other than shell beads.

At Santa Rita Corozal, a new ceramic tradition appeared at the site (D. Chase 1982a, 1984). Its earlier facet shows some similarities to the Tulum (Paxbono) Red tradition, but its late facet manifestation is more derivative of Mayapan-like ceramics. Two, if not three, censer subcomplexes have been defined for Late Postclassic Santa Rita (D. Chase 1985:115-116): pedestaled and modeled dishes (Fig. 12c), effigy human censers, and modeled tripod ollas and cups. Three burial subcomplexes are represented at the site (D. Chase 1986: 357-362). Mass burials of more than one individual occur frequently; these are sometimes accompanied by effigy censer fragments or footed plates and bowls (Fig. 12b), redware effigy collared rim jars, and plainware ollas. Flexed burials of individuals on their sides also occur; these are sometimes accompanied by water jars and modeled red ware jars. The elite of Santa Rita, in contrast, were buried seated upright and usually without ceramic vessels, but often with other elaborate artifacts. Refuse deposits, probably from ceremonial contexts, contain a mixture of all known forms including censers, jars, and bowls (Fig. 12a); these also contain a significant amount of painted geometric decoration not found in other contexts at the site. The Late Postclassic cache subcomplex from Santa Rita Corozal is well known and focuses on modeled effigy figures or figurines (Fig. 13), usually encased in a lidded plainware olla (D. Chase 1985). A second cache subcomplex consists of a black tradeware cached beneath a wall. Whereas the Santa Rita Corozal Postclassic ceramics show strong ties to the northern lowlands, the Tayasal Postclassic ceramics show an indigenous development.

Historic Period

With the exception of one majolica sherd, no materials definitely attributable to the Spanish have been located at the site of Tayasal. However, ceramics equivalent to those found in the modern village of San Jose on the north shore of Lake Peten do occur archaeologically and are known as Chilo Unslipped. How much time depth may be ascribed to Chilo Unslipped is unknown at this time. In contrast, the Historic period at Santa Rita Corozal is well represented in that Spanish goods (majolica and olive jars) dating to the sixteenth century are found and abundant nineteenth century English ceramics are also present, paralleling the development of modern Corozal Town and the sugar industry of northern Belize.

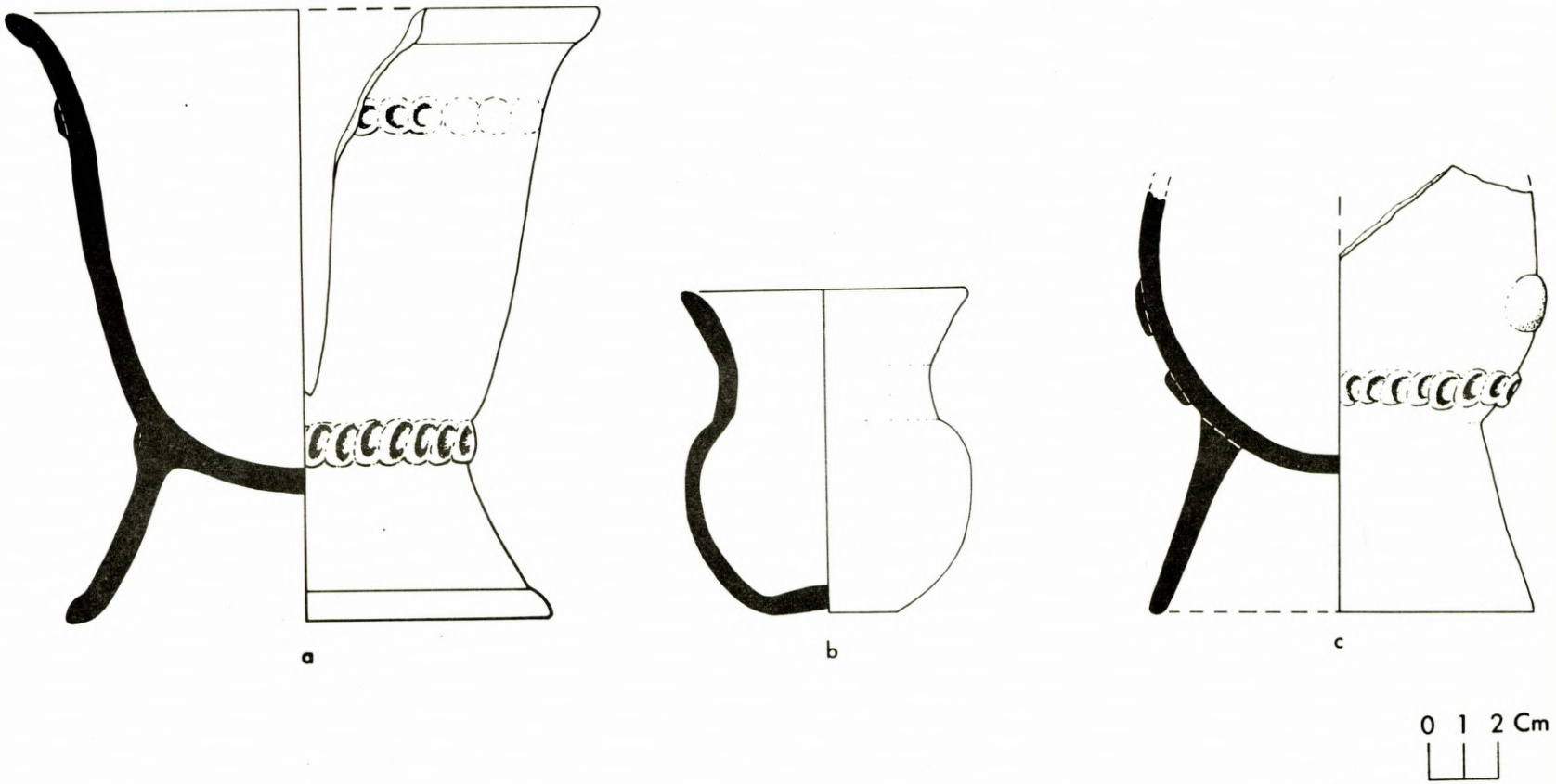

Fig. 11. Middle and Late Postclassic vessels from the Tayasal-Paxcaman zone: a) Puxteal Modeled: variety unspecified from P.D. T43A-1. b) Nohpek Unslipped: Nohpek variety from Bu. T9H-1. c) Puxteal Modeled: Puxteal variety from Deposit T31G-1.

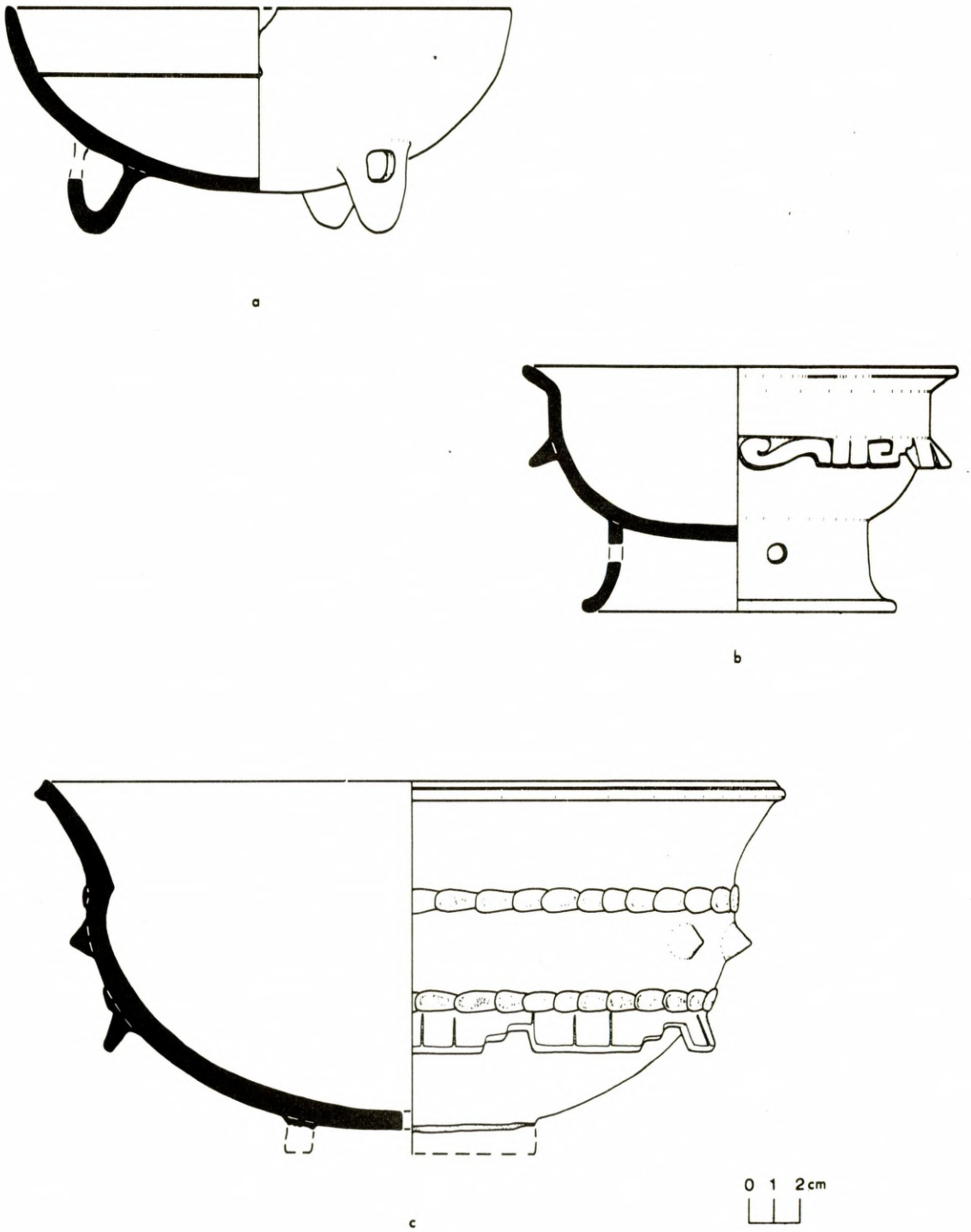

Fig. 12. Middle and Late Postclassic vessels from Santa Rita Corozal: a) Rita Red: Rita variety from Deposit P6E-1. b) Kulel Modeled: Kulel variety from S.D. P37A-2. c) Pum Modeled: Pum variety from Deposit P6E-1.

Fig. 13. Late Postclassic Cao Modeled: Cao variety cache figurine of a warrior from S.D. P37A-1 in Santa Rita Corozal Structure 183.

CONCLUSIONS

This very brief presentation of known ceramic (and other) subcomplexes from Tayasal and Santa Rita points to broad similarities and differences. A general similarity, to the point of full ceramic sphere membership, is seen between the two ceramic sequences only during the Late Preclassic period. While the Early Classic period complexes differ, the extant burial subcomplexes indicate that the two regions were politically tied together.

The regionality of northern Belize, apparent in the divergent pottery traditions found at different sites, is evident during the Early Classic period and is well expressed by the Late Classic. In particular, Altun Ha (Pendergast 1979, 1982) shows a ceramic trajectory distinct from that at Santa Rita. Although noted as having had some kind of contact with Teotihuacan early in its history (Pendergast 1971), the published material from Altun Ha reveals little ceramic evidence of the kind termed "Teotihuacan influence" in central Peten; in fact, while Santa Rita and Tayasal are involved in a similar burial subcomplex showing these influences, Altun Ha appears to be developing what becomes the generalized early Late Classic (or Tepeu 1) bowl tradition that later

emerges in central Peten. Santa Rita Corozal never adopts this Saxche Orange bowl tradition, but Tayasal and most of central Peten do; thus it would appear that part of the explanation for the pottery transition from Tzakol to Tepeu forms in the Peten and the associated Maya hiatus is to be found in central Belize. While central Peten adopts, continues, and modifies what appears to be a Belizean legacy, Altun Ha continues along the regionalized path followed by most sites in northern Belize during the Late Classic period (see A. Chase 1986:121-124).

Other glaring questions emerge when the two sequences and their subcomplexes are compared. Why is there an emphasis on redwares at Preclassic Santa Rita Corozal to the virtual exclusion of creamwares and blackwares? Why are blackwares so much emphasized during the Early Classic period at Tayasal? Could the emphasis on these two colors, black and red, reflect other meanings - such as east and west in the Maya area or is this too far-fetched? The Protoclassic period in the Maya area is one that also demands more research. We have been looking for ties to the south, but given the highly visible role that Teotihuacan plays in the Early Classic Maya area, perhaps we should look north toward central Mexico and maybe to the valley of Oaxaca. Could the Protoclassic and Teotihuacan Early Classic florescence of the Maya be the result of trade competition between Teotihuacan and Monte Alban mixed together with a dose of indigenous Maya development?

Overall, the Santa Rita Corozal and Tayasal sequences emphasize internal developments with several exceptions. The Preclassic developments at both sites represent smooth trajectories. At Tayasal, what Protoclassic elements occur are fit into an existing framework much as the slightly later Teotihuacan elements that appear at the site. The real shift in Tayasal pottery traditions occurs in the transition from the Early Classic to the Late Classic period. At Santa Rita, the Protoclassic and Early Classic periods are characterized by a wealth of different fineware pottery, most of it introduced, at least initially, to the area. The transition from the Early Classic to Late Classic is a smooth one, and Santa Rita Corozal is totally outside of the Tepeu ceramic sphere. The Late and Terminal Classic developments at both sites are relatively smooth but the transition between the Classic and Postclassic periods is characterized by the appearance of new pottery in both regions. At Tayasal, this new pottery is established during the Early Postclassic and develops its own regional tradition which continues through the Late Postclassic period. At Santa Rita Corozal, the pottery is derivative of Mayapan and especially flourishes during the Late Postclassic with its own distinctive caching pattern. In terms of overall Maya development, both Santa Rita Corozal and Tayasal suggest

that the Early Classic and Terminal Classic/Early Postclassic periods are critical to understanding who the Maya were and what they became.

Further definition and consideration of ceramic subcomplexes will greatly aid in reconstructing Maya prehistory. Maya pottery exists within a behavioral context that is reflected in subcomplexes. Intersite comparisons are often restricted to general similarities through the use of such concepts as ceramic sphere or hidden because of the difficulties involved in type definitions by different researchers. Thus, to attempt to understand Maya behavior through ceramics mandates that we look for other avenues such as the use of the context in which special pottery assemblages occur. It is important first to understand each site and its sequence individually before pigeon-holing its ceramics in terms of other sequences. It is even more important to attempt to define how ceramics are specifically used and what behavior is associated with them, if possible. While these subcomplexes may be described in terms of their constituent types, it is clear that the form of the vessel is the most important attribute to the Maya of Santa Rita Corozal and Tayasal. The various forms that make up certain subcomplexes, when combined with their understood function and recovered placement, may allow the interpretation of "broader cultural interaction patterns" in the overall Maya region by pointing to differences and similarities in the contextual use of pottery.

Acknowledgments

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5

Terminal Classic to Early Historic Period Vessel Forms from Belize

Elizabeth Graham

The sequence of Terminal Classic to Historic period vessel forms in Belize remains to be documented more fully, but there is enough information extant to permit some degree of generalization about form changes and the co-occurrence of attributes that are diagnostic of specific time periods. My frame of reference for the Postclassic is derived largely from my work at the site of Lamanai, in northern Belize, from 1979 to the present. I have used this information, as well as data from sites (see Fig. 1) in the Belize, Caves Branch, Sibun, and Stann Creek valleys (Graham 1985, 1983; Graham et al. 1980, 1985), and Altun Ha (Pendergast 1979, 1982a) to tie some aspects of the Lamanai sequence to Postclassic ceramic events elsewhere.

In the accompanying illustrations I have attempted to assemble forms that represent periods within the Postclassic. Not all chronological periods at Lamanai have been named because only a portion of the ceramic collection has been analyzed. However, provisional names are in use for some phases and these can serve as preliminary devices by which to divide the Postclassic.

THE SEQUENCE IN PERSPECTIVE

The transition effected from the Late Classic to the Postclassic is most clearly manifested at Lamanai in continuous construction and modification of an assemblage of elite residential structures (Plaza N10/3) north of a ceremonial complex that includes N10-9, a large ceremonial structure that continued to be modified until at least the thirteenth century (see Pendergast 1985). In most areas of the site, however, as well as at other sites in Belize, what can viably be called the end of the Classic period is most sharply in evidence in the nature of changes in the

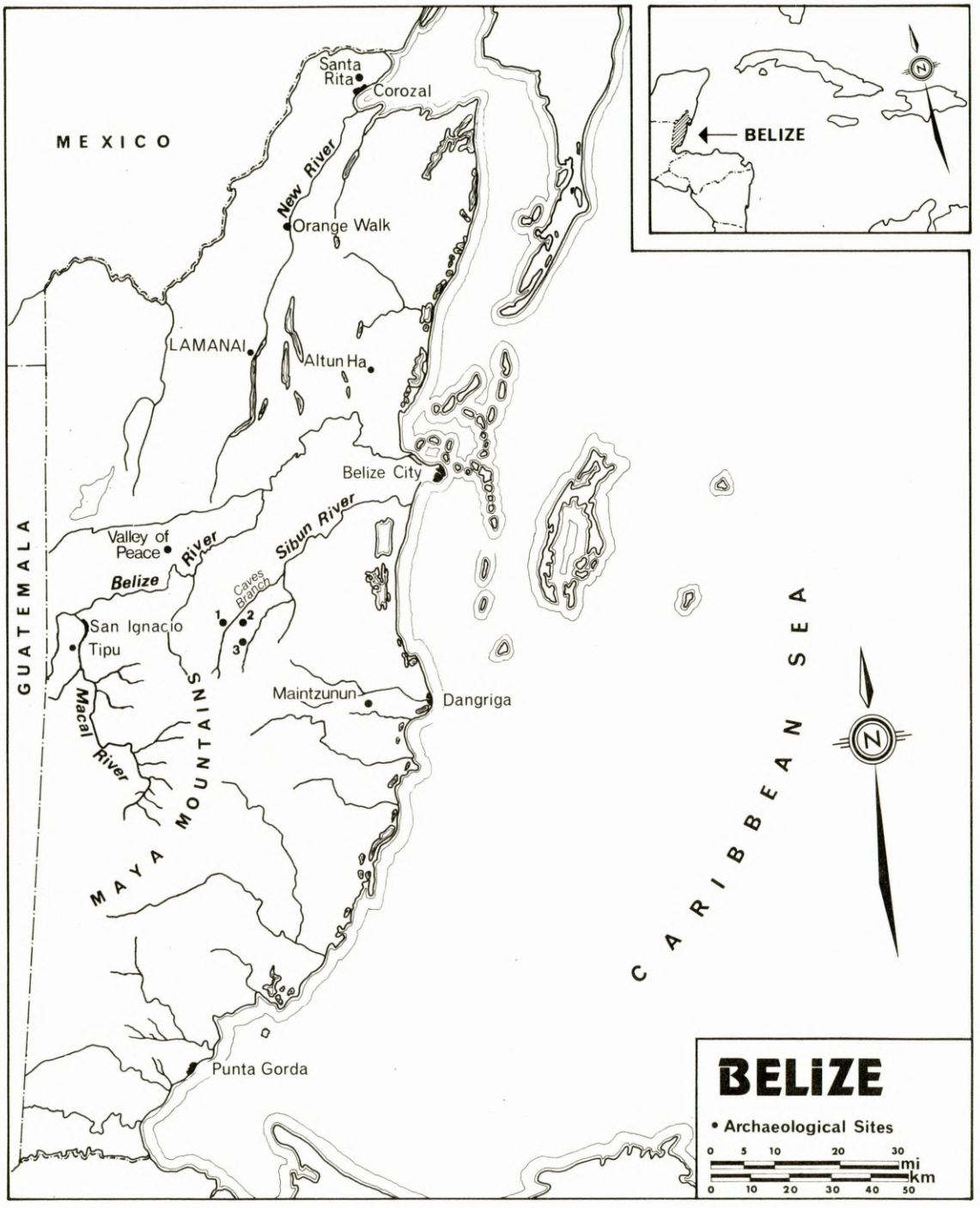


Fig. 1. Map of Belize with sites mentioned in text. 1: Footprint Cave. 2: Actun Tzimin. 3: Chanona Cave.

artifact inventory and architectural sequence from the eighth to ninth century, despite the fact that continuities in ceramic tradition are present.

Therefore at Lamanai, as elsewhere in the southern lowlands (Chase and Chase 1985; Sabloff and Andrews 1986), we are turning to the Terminal Classic period to isolate the trends that in retrospect can be seen as the roots of Postclassic culture.

I will not deal with the Late to Terminal Classic changes in any detail here (see Graham 1985:228-229), but I will outline three important points about the Terminal Classic period that bear on the way the ceramics from Terminal Classic times onward can be assessed.

The first critical point is that if the focus of archaeological investigation is any aspect of Maya occupation dating from the ninth century or later, then the excavation strategy employed must be designed specifically to suit depositional patterns that differ markedly from patterns characteristic of the Classic period. Massive construction did not cease everywhere but it diminished considerably. As a result, far fewer artifacts are preserved because only a relatively small portion is sealed in deposits bound up in various ways in construction. Terminal Classic middens occur, but in my experience the ceramics are generally preserved only when the middens have been sealed in one way or another by later occupation or construction deposits, or are protected by being piled against or inside buildings. Evidence for Terminal Classic or later occupation associated with small structures is usually revealed only by extensive exposure of these structures, as several centuries of use can often be represented by only thin scatters of debris. From Terminal Classic times onward, the context within which the ceramic evidence is viewed is not comparable to the context of Classic ceramics, and the approach for structuring sequences of occupation or drawing inferences about settlement patterns must be tailored to suit what is known about Postclassic conditions.

The second point is that our understanding of the changes that toook place from Classic to Postclassic times will be increased greatly if we look not at ceramics alone--which, though they indicate a trend toward regionalization, also show aspects of continuity--but rather at the correlation of Terminal Classic ceramic forms and types with the appearance of a new lithic technology characterized by side-notched points. To chart the adoption of side-notched lithic technology in the southern lowlands is, to a great extent, to chart the spread of Postclassic culture. Though the correlation of various aspects of material culture is a given in

archaeological interpretation, the Terminal Classic is perhaps the most critical period in Maya prehistory in which to consider ceramic forms and types against a backdrop of lithic technological change.

Finally, though it is true that from Terminal Classic to Historic times the ceramic assemblages are characterized by great regionalization, it is equally true that as Postclassic pottery becomes increasingly familiar, its forms and treatments are paralleled from site to site. From such recognition of parallels, a more coherent Postclassic sequence is beginning to emerge (see Chase and Rice 1985). Of necessity, however, the sequence begins with a new look at the Terminal Classic.

In the discussion that follows, most of the vessels illustrated are from Lamanai, but a small proportion are from Altun Ha, the Belize valley (Negroman-Tipu and Valley of Peace), the Sibun valley (Actun Polbilche and Chanona cave), and the Caves Branch valley (Actun Tzimin and Footprint caves).

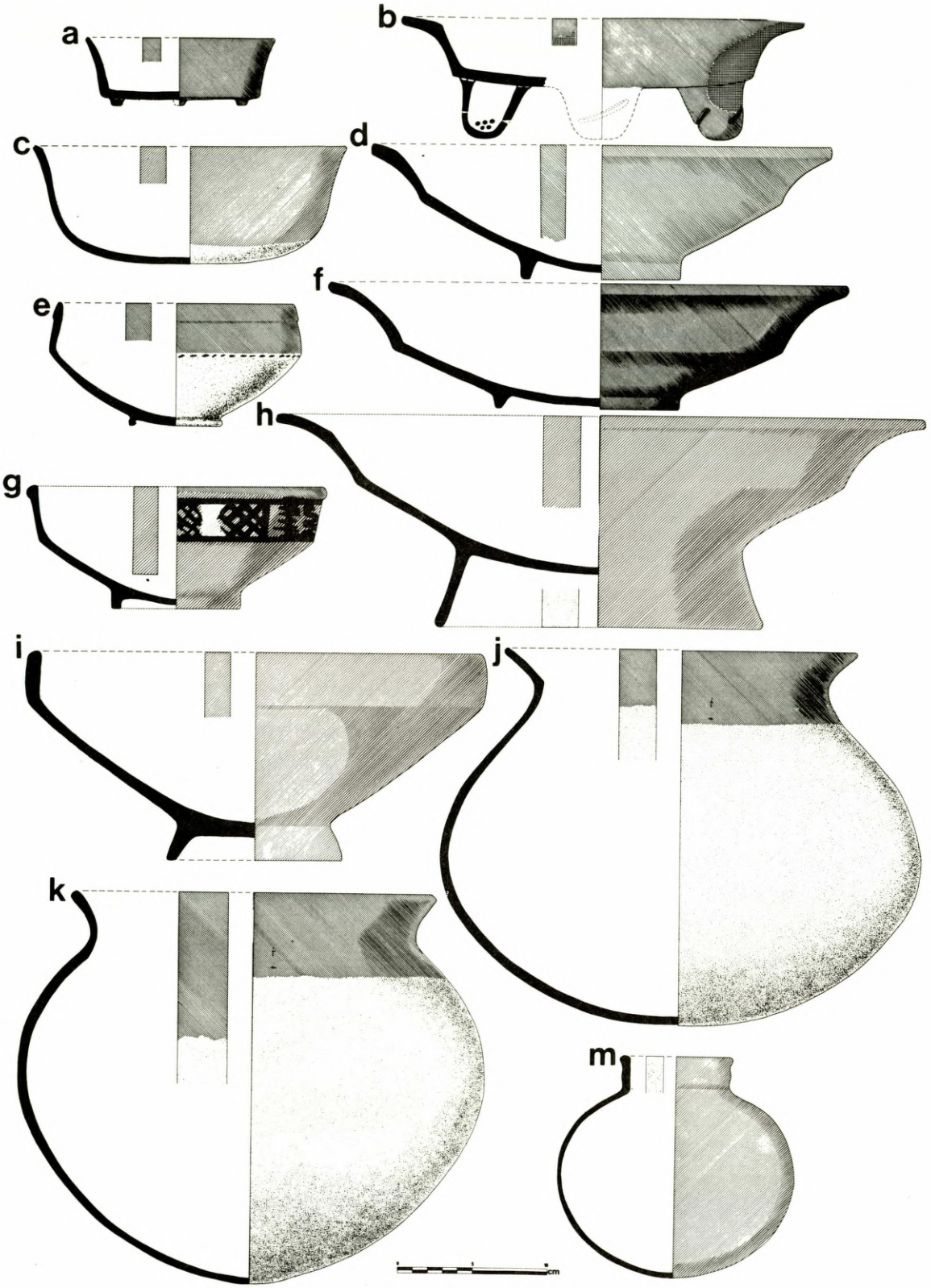
TERMINAL CLASSIC-EARLY POSTCLASSIC PERIOD

Figures 2 and 3 illustrate some of the vessels that are characteristic of the Terminal Classic to early Postclassic period in Belize. Evidence from Lamanai, Altun Ha, and sites in the Stann Creek District indicates that most of these vessels were in use from the ninth to the eleventh century. At Lamanai in particular, massive

Fig. 2. (note: "DOA" serves to designate the Department of Archaeology's catalogue numbers in Belize; where I do not have the specific vessel number, only the site catalogue number is given. All other catalogue or lot numbers are those of the site excavators.)

a. Lamanai, LA 676/1. Plaza N10/3 group, midden under demolition material between N10-15 and N10-28.
b. Lamanai, LA 661/2. N10-15, from core of unit of construction in one of the rooms.
c. Lamanai, LA 678/1. N10-15, midden on north side of bench at west end.
d. Lamanai, LA 164/6. N10-2, Burial N10-2/39.
e. Lamanai, LA 656/6. Refuse pit at the northeast corner of N10-15.
f. Actun Tzimin, DOA 31/189-1: 42.
g. Altun Ha, RP 239/1. Str. E-7, 2nd A, Burial E-7/16.
h. Altun Ha, RP 135/17. Str. E-7, final-occupation midden, west face of platform.
i. Lamanai, LA 569/1. P8-103 refuse, west side.
j. Actun Polbilche, AP 2/2. Alcove 1.
k. Actun Polbilche, AP 2/9. Alcove 1.
m. Lamanai, LA 640/4. N10-15, Cache N10-15/2.

Vessel Forms from Belize



and continuous construction in the Plaza N10/3 group, as noted above, is documented during this period. In other areas of the site large middens that contained most of the ceramic forms of the period have been found along the terrace faces at the sides of Late Classic buildings and in various rooms. In at least two architectural groups, the Plaza N10/3 complex and N10/8, these ceramics are overlain by forms and types representative of the Middle Postclassic period or "Buk" phase.

Figure 2b is not a representative Lamanai form, though the lip treatment may be a Lamanai variation on a foreign theme. I have included it because it is one of the few examples of a form more closely akin to those of central Belize and Peten--a flat bottomed bowl with "oven" feet. The practice of producing enlarged, hollow, and vented feet is not common at Lamanai until the Buk phase, whereas such treatment appears with greater frequency in Peten and central Belize in Terminal Classic times (see, e.g., Pendergast 1969; Sabloff 1975). The occurrence of the flat bottomed bowl with large, hollow, vented feet with Terminal Classic ceramics at Lamanai is consistent with dating farther south, but its infrequent appearance suggests that ceramic trends were in progress at Lamanai that were different from those in Peten and some parts of Belize.

Of the other vessels, Figures 2d, f, and h represent a form that is a marker for the Terminal Classic period. Though I am not aware of the occurrence of this form in Peten, it is widespread in Belize and occurs as a variety of types (e.g., Roaring Creek Red and Daylight Orange, types established in Gifford 1976). It is found at sites in the Stann Creek District (Graham 1983, 1985), in the Caves Branch valley (at Actun Tzimin), the Sibun valley (at Actun Polbilche [Pendergast 1974]), at Altun Ha (Pendergast 1982a), and in northern Belize at Lamanai and San Jose (Thompson 1939). It is a long-lived form that, as Pendergast has pointed out (personal communication, 1985), seems to have evolved by elongation of the pedestal base and exaggeration of the lip into the "chalice" form so characteristic of the Buk phase (see Fig. 5d, e,; and Pendergast 1981a: Fig. 15).

The basal-break bowls of Figure 2e, g, and i also appear to be antecedent forms of Buk-phase pedestal base bowls such as Figure 4a and b. Terminal Classic slipped bowls such as Figure 2c are common, and seem to be the antecedent form for Buk bowls with elaborate incised designs such as Figure 5j and k.

Large jars with slipped or washed rims are common in Belize from Middle Preclassic to Postclassic times. In the Terminal Classic period the rims are slipped red down to the shoulder, and the bodies of the jars can be

striated or plain. The forms and treatment represented by Figure 2j and k are common at Lamanai, though the illustrated vessels are from Actun Polbilche. Figure 2j is notable in that the treatment of the rim presages the sharp flare characteristic of jars from the Buk phase through early Historic times. The jar of Figure 2m shows a bulge in the neck that becomes a more common attribute in Postclassic times, whereas the flat bottomed tripod bowl of Figure 2a is reminiscent of Late Classic forms.

Aside from the forms illustrated here, there is a bottle shape that is also diagnostic of the Terminal Classic period; like the bowls of Figure 2d, f, and h, it occurs in both northern and central Belize (Gifford 1976:240, Fig. 148; Pendergast 1985: Fig. 2f). There is also a barrel- or cylindrical-shaped vase form that occurs at Lamanai with modeled-carved decoration (see examples of Fig. 3); the form is common in central Belize, and may, in fact, be more typical of that region than of the north.

Modeled-carved vessels are problematic, to say the least. I know of only one from a stratified context in Belize--a cache vessel excavated at Maintzunun along Silk Grass Creek in the Stann Creek District (Graham et al. 1980)--where it has been dated to the ninth or early tenth century. Three of the vessels illustrated here (Fig. 3a, b, and c) exhibit a scene that is a common theme on modeled-carved vessels in Belize (Graham et al. 1980). The variety in execution of the scene and in pastes of the vessels (compare Fig. 3a from Valley of Peace with 3b from Chanona cave) indicates that at least in this case no mold was used to control execution, as was the case with Pabellon Modeled-carved (Sabloff 1975:195). A template or drawings must have been in widespread use, however, because standardized elements occur at a number of sites (Lamanai, Altun Ha, Valley of Peace, Chanona cave, and Footprint cave).

Modeled-carved vessel sherds at Lamanai are found mostly as surface scatters over Late Classic buildings, and only occasionally in Terminal Classic middens. The vessels do not seem to have been a common type or form, and as evidence from caves suggests, they may have functioned solely in a ritual context.

Generally speaking, red is the dominant Terminal Classic slip color. The slips often have a Preclassic look and feel, though they do not adhere to the vessel body nor retain the sort of luster that is characteristic of Preclassic ceramics. Except for the modeled-carved vessels, creative efforts seem to have been channeled more into experimental form variations than into painting, incision or other surface treatments. As the Terminal Classic period progressed, orange slips appear with more frequency. By the twelfth century, when what we have

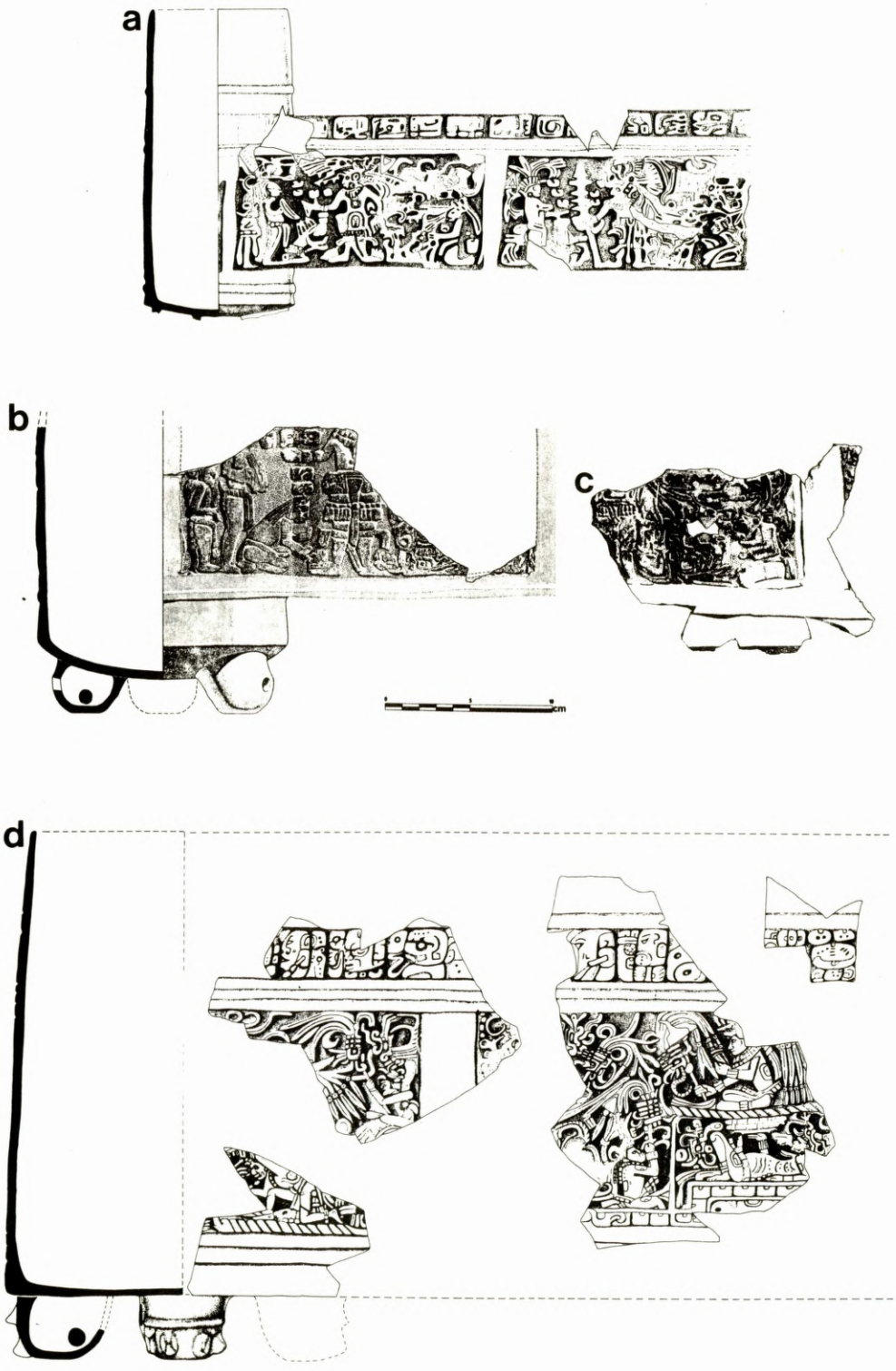


Fig. 3. a) Valley of Peace, DOA 30/191-2. b) Chanona Cave, DOA 32-189-5:8. c) Footprint Cave, DOA 31/189-15:2. d) Lamanai, OLA 661/1, surface of N10-15.

called Buk phase ceramics were in full flower, orange was the preferred slip color. At Lamanai, at least, forms had become standardized--that is, repeatedly produced over a period of time--while post-slip incision dominated vessel decorative treatment.

The picture from central Belize is far less clear, because less work with a Postclassic focus has been carried out there. However, the evidence so far from Tipu suggests that by the twelfth century whatever ties may have existed with northern Belize in earlier times had been loosened, and the ceramic tradition known to be characteristic of Peten had come to dominate (see Rice 1985).

BUK PHASE - THE MIDDLE POSTCLASSIC

Many Buk-phase forms have been published elsewhere (Pendergast 1981a, 1982b). Here I have chosen to illustrate forms that have antecedents in the Terminal Classic period, or that presage later Postclassic treatments. The ceramics on which the characterization of the Buk phase is based were produced in quantity by AD 1140. This calendar date is the mean of a series of radiocarbon dates from Structure N10-2, one of the major sources of burial-associated Buk ceramics. Given the minimal variation in forms apparent at this time, it is reasonable to assume that at least some of the vessels of this phase had begun to be made and used a half-century earlier, and possibly as early as AD 1050, in order for this standardization to develop. Because there is continuity as well as change from Terminal Classic times, it is difficult to think in terms of a "starting date" for this phase. What can be said at this juncture is that the most significant changes in emphasis in ceramic and lithic manufacture took place at Lamanai in the tenth and eleventh centuries: incised decoration came to dominate as decorative treatment; red slips gave way to overwhelming use of a bright, lustrous orange; the last easily traceable ties to Classic Maya culture, such as polychrome decoration or even the depiction of ritual scenes on pots in the modeled-carved technique, disappeared; and side notched projectile points were manufactured to the exclusion of the stemmed bifaces or stemmed macroblades of earlier times. By AD 1150, Buk-phase ceramics and lithics had become standardized (at least in comparison with the two centuries that had gone before); AD 1050 can be reasonably chosen as that great archaeological fiction, the "start" of the Buk phase. It is probably best, however, to hold the pinpointing of a starting date in abeyance until all of the materials from Lamanai are analyzed.

A closing date for the Buk phase is even more

difficult to fix, not because we lack evidence, but because of the abundant evidence for a gradual transition to the Cib phase, at least ceramically speaking, in both ritual and utilitarian vessels. In a very real sense, any precise closing date would be misleading, as indeed it would be for other phases, at Lamanai and elsewhere. Suffice it to say that from about AD 1300 to 1400 ceramic slips and styles gradually changed in the direction of a range of treatments that can be said to characterize ceramic expression of the Cib or "Tulum-related" phase from about 1350 to some time late in the fifteenth century. I summarize these changes in the discussion of Cib ceramics.

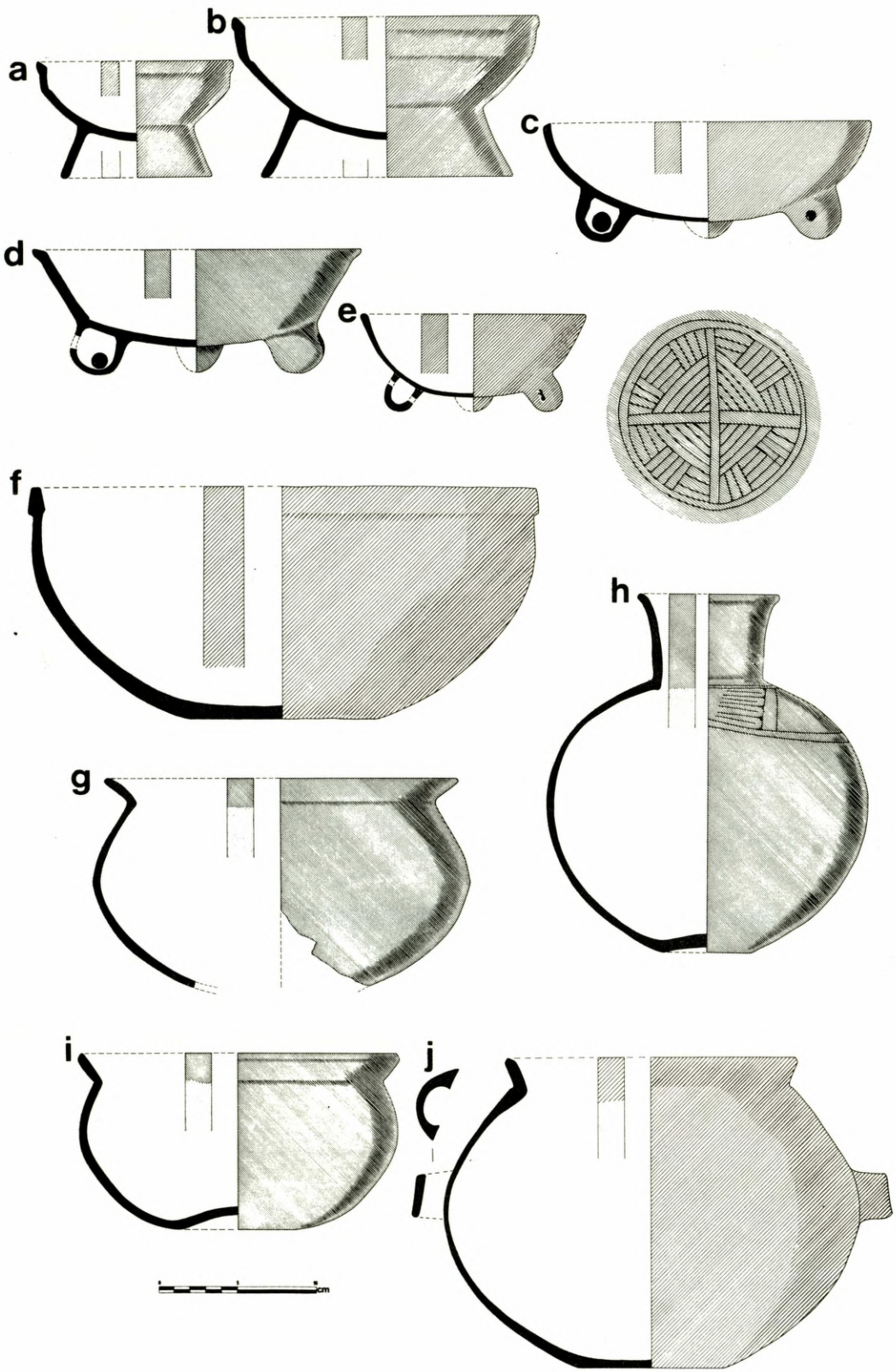
In general terms, Buk-phase ceramics are notable for: 1) the preference for orange, lustrous slips; 2) elaborate post-slip incised decoration, usually limited to bands around vessel rims, shoulders, or walls; 3) bowls with tripod, hollow vented feet that often occur as effigies of animals, or what are assumed to be gods; 4) frequent ornamentation of bowls and some censer forms with segmented flanges, often with incised decoration; 5) the collared rim treatment on jars and wide mouthed bowls; and 6) applied effigy figures of animals and gods that make their appearance on the sides of censers and bowls, or that occur as hollow vessels apparently used to contain offerings.

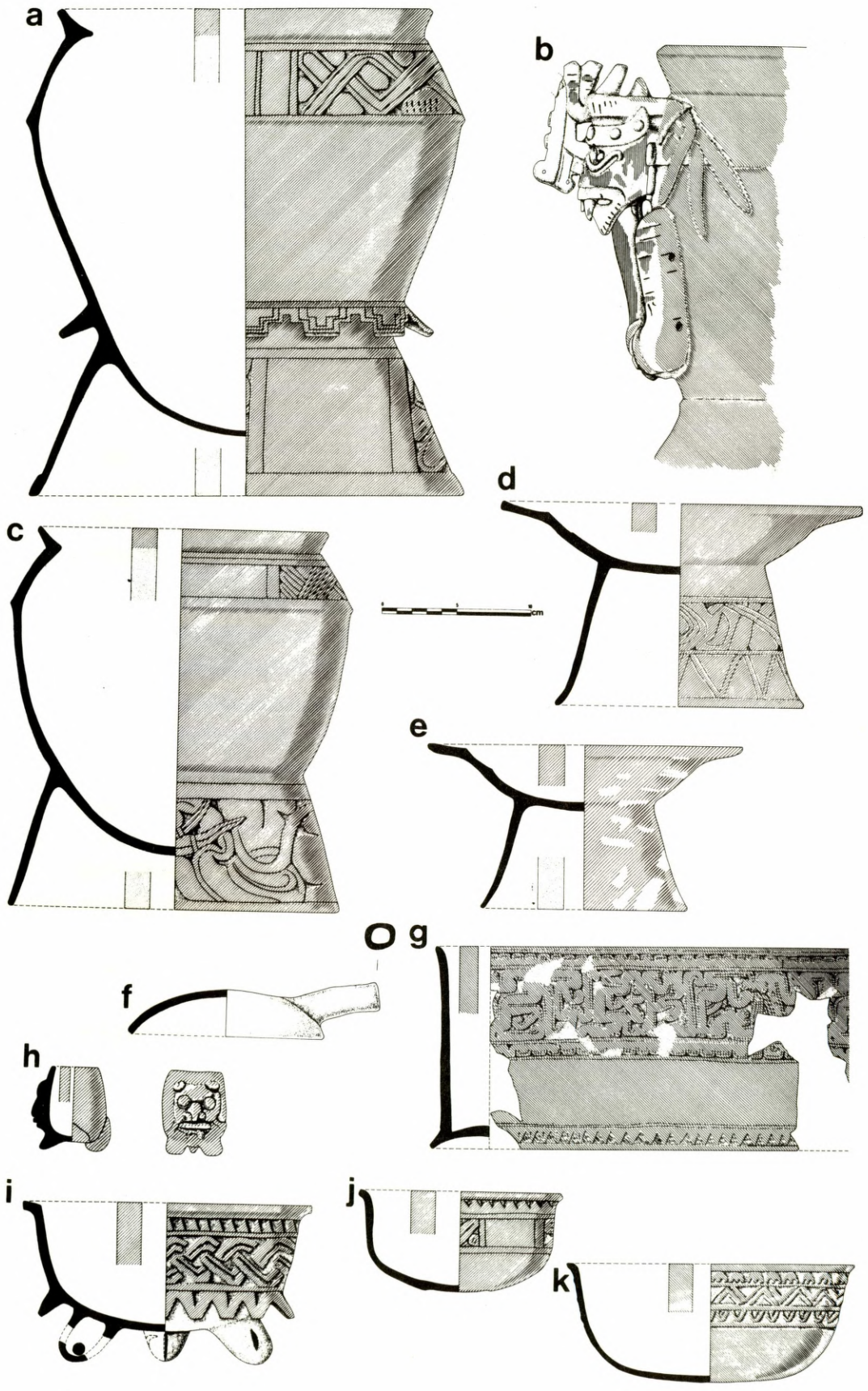
The basal-break pedestal base bowls of the Buk phase (Fig. 4a and b) and the "chalices" (Fig. 5d and e) have been discussed above as having antecedents in Terminal Classic forms. The slipped censers (Fig. 5a, b, and c) are markers for this phase in the Postclassic, and those with applique effigy figures (Fig. 5b; see also Loten 1985: Fig. 3) can be viewed as precursors of the Mayapan-style censers (Chen Mul Modeled) so common in Late Postclassic times (Pendergast 1981c; Smith 1971: Fig. 67).

Fig. 4.

a. Lamanai, LA 102/1. N10-7, Burial N10-7/2.
b. Lamanai, LA 122/2. N10-2, Burial N10-2/18.
c. Lamanai, LA 92/2. N10-4, Burial N10-4/30.
d. Lamanai, LA 118/1. N10-2, Burial N10-2/16.
e. Lamanai, LA 62/71. Midden, west side of N10-2.
f. Lamanai, LA 13/2. N10-1, Burial N10-2, placed in an addition to the main structure, assoc. with censer similar to Fig. 5b.
g. Lamanai, LA 58/2. N10-2, Burial N10-2/9, post abandonment.
h. Lamanai, LA 127/9. N10-2, Burial N10-2/20.
i. Lamanai, LA 12/1. N10-2, Cache N10-2/1.
j. Lamanai, LA 133/1. N10-4, Burial N10-4/41.

Vessel Forms from Belize

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A wide variety of "frying pan" censers (Fig. 5f) appeared at this time; many have an animal-head effigy embellishing the tubular handle, and the orientation of the head indicates that the censer was in fact a kind of lid that either covered another vessel, or capped the incense or other material being burned. The interiors of the censers and the hollow handles are always heavily blackened; such blackening of the handles obviously could not have occurred if the vessels were held in the "frying pan" position.

Tripod bowls with hollow, vented feet (Fig. 5i) were produced in great numbers during this phase. Characteristically, the feet are often in the form of effigies (Pendergast 1981a, 1982b). Bowls such as those shown in Figure 5j and k have shape precedents in Terminal Classic times, such as Figure 2c, but the orange slip and elaborate bands of incision are markers for the Buk phase. The vase in Figure 5g is not a common form, but it is notable because it bears some resemblance to the straight-sided vases of the Terminal Classic period, and because it dates from the earliest part of the Buk phase.

Figure 5h is an example of the unslipped but often painted effigy censers that were common from the Buk phase through to Historic times. Though change is clearly manifested in the style of the large censers with applied anthropomorphic figures from Buk to Cib times (compare Fig. 5b to the "Mayapan-style" censer of Pendergast 1981c; Fig. 5), the smaller censers show less change through time. Unless paste and/or firing variations hold some clues, there are many cases in which these sorts of

Fig. 5.

a. Lamanai, LA 95/1. N10-7, Burial N10-7/1.
b. Lamanai, LA 61/1. N10-2, Burial N10-2/10; fold foil and copper bell also associated with this burial.
c. Lamanai, LA 95/6. N10-7, Burial N10-7/1.
d. Lamanai, LA 243/20. Found scatter over stair of N10-9.
e. Lamanai, LA 243/4. Found scattered over stair of N10-9.
f. Lamanai, LA 390/3. From core of N9-59, a small platform built in the area of the former plaza of a ceremonial group abandoned at the end of the Classic period.
g. Lamanai, LA 21/9. N10-1, Burial N10-1/1.
h. Lamanai, LA 34/7. N10-2, Cache N10-2/2; also contained corn and beans.
i. Lamanai, LA 127/5. N10-2, Burial N10-2/20.
j. Lamanai, LA 123/5. N10-2, Burial N10-2/19.
k. Lamanai, LA 176/3. N10-2, Burial N10-2/45.

censers--cup and bowl shapes with applied effigy figures, or simply hollow effigy figures--could date anywhere from the twelfth century to Historic times.

Buk-phase ceramics have been identified at a few other sites in Belize. At Altun Ha (Pendergast 1982a:140) and Mayflower, near Maintzunun in the Stann Creek District (Graham 1985:222), censers and chalices were found fragmented over the collapse debris of abandoned Classic-period ceremonial buildings. Reconnaissance in 1984 and excavation in 1986 show that Buk-phase vessels occur in quantity at the site of Marco Gonzalez, on Ambergris Cay, in building core and midden contexts. The substantial amount of cultural material from this phase suggests that Marco Gonzalez was the site of intensive activity in the twelfth and thirteenth centuries. At Negroman-Tipu, on the Macal River in the Cayo District, small numbers of sherds from Buk-phase vessels have been recovered consistently in core and midden lots of various structures. In some cases deposition is clearly non-primary, as in the core lots. In the case of the middens there are too few sherds to enable us to assess securely whether the Buk-phase sherds are contemporaneous with the early Postclassic Peten and central Belize types with which they occur, but indications are that this is so.

Analysis of the Tipu ceramics is in progress (Rice 1985) and conclusions have yet to be reached. At this stage, my overview of the Tipu ceramics has led me to note parallels between the lustrous orange-red slip of the Augustine Red at Tipu and the orange slip of Buk-phase ceramics. There are certainly general form parallels in the presence of collared jars and bowls, and in the form of grater bowls (see the Tipu vessels illustrated in Fig. 6a and b). The vessels illustrated in Figure 6a, b and c are from an Early Postclassic midden (based on the presence of Augustine Red) at Tipu which has yielded three obsidian hydration dates falling within the twelfth and early thirteenth centuries (AD 1155 +/- 39 years; AD 1163 +/- 28 years; AD 1201 +/- 50 years). These dates fall in the late part of the Early Postclassic in Peten and central Belize, but they are not out of line with it. The presence in the Tipu midden of a black fire-clouded variant of Augustine Red (Fig. 6c), a variant believed to be characteristic of Middle Postclassic times (Rice 1985), suggests that deposition of the midden probably took place in the latter part of the Early Postclassic continuum, according to Peten chronology.

Therefore, indications are that the "Middle" Postclassic or Buk phase at Lamanai (so called because of the clear transition from Terminal Classic times where Early Postclassic forms and types take root) parallels at least the latter part of the Early Postclassic of Peten and central Belize.

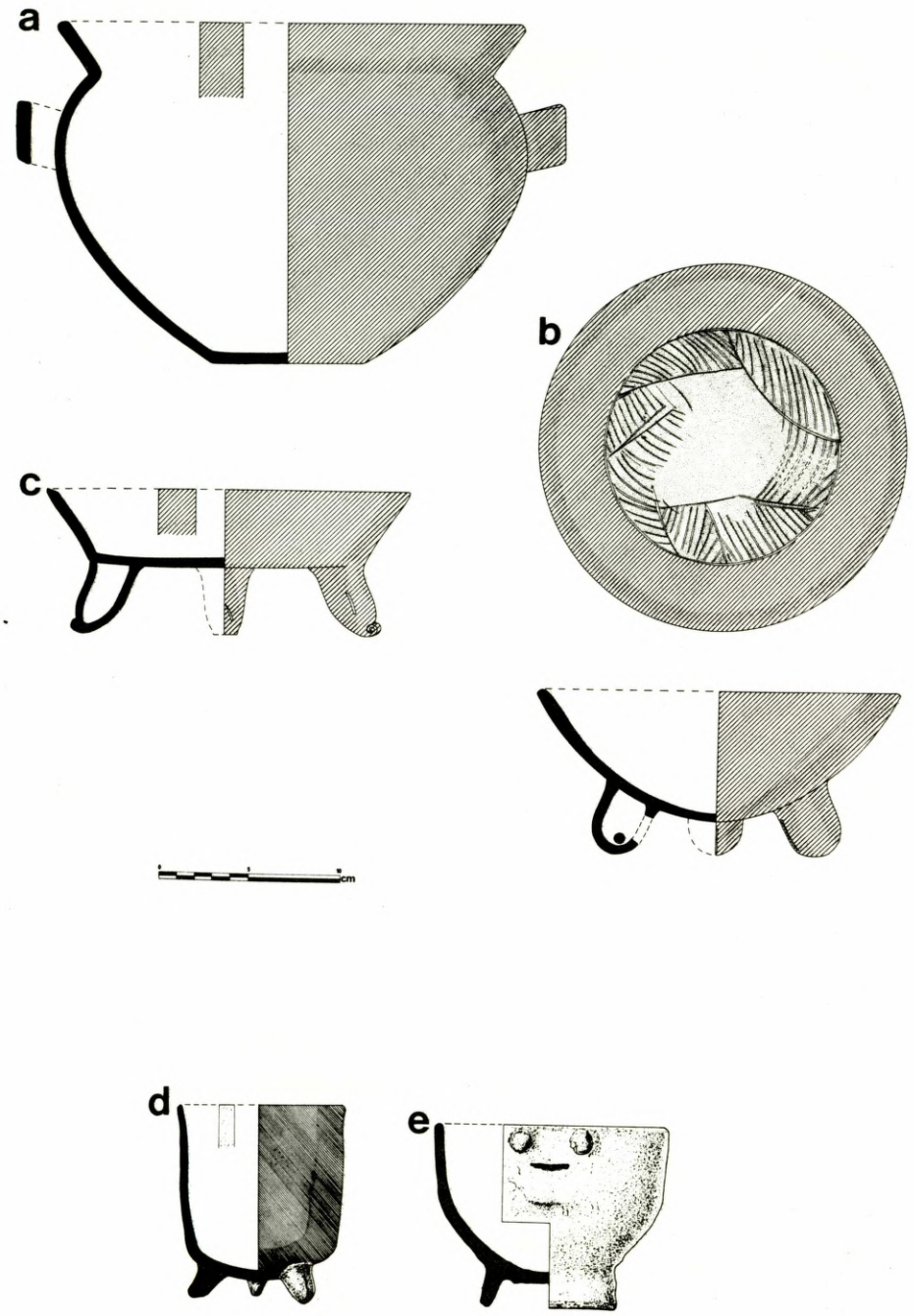


Fig. 6. a) Negroman-Tipu, T-245/1. b) Negroman-Tipu, T-366/1. c) Negroman-Tipu, T-245/2. d) Negroman-Tipu, MT-308/1. e) Negroman-Tipu, MT-308/2.

CIB PHASE - THE LATE POSTCLASSIC

The ceramics of this phase remain less fully documented than those of the preceding phase because a great deal of the material occurs in midden contexts, and the unslipped utilitarian ceramics from these contexts have not yet been analyzed. However, a range of vessels from stratigraphically controlled primary contexts, such as burials and offerings, has been studied and illustrated (see, e.g., Pendergast 1981b) and this has permitted at least some generalization regarding changes in ceramic treatments from the preceding Buk phase.

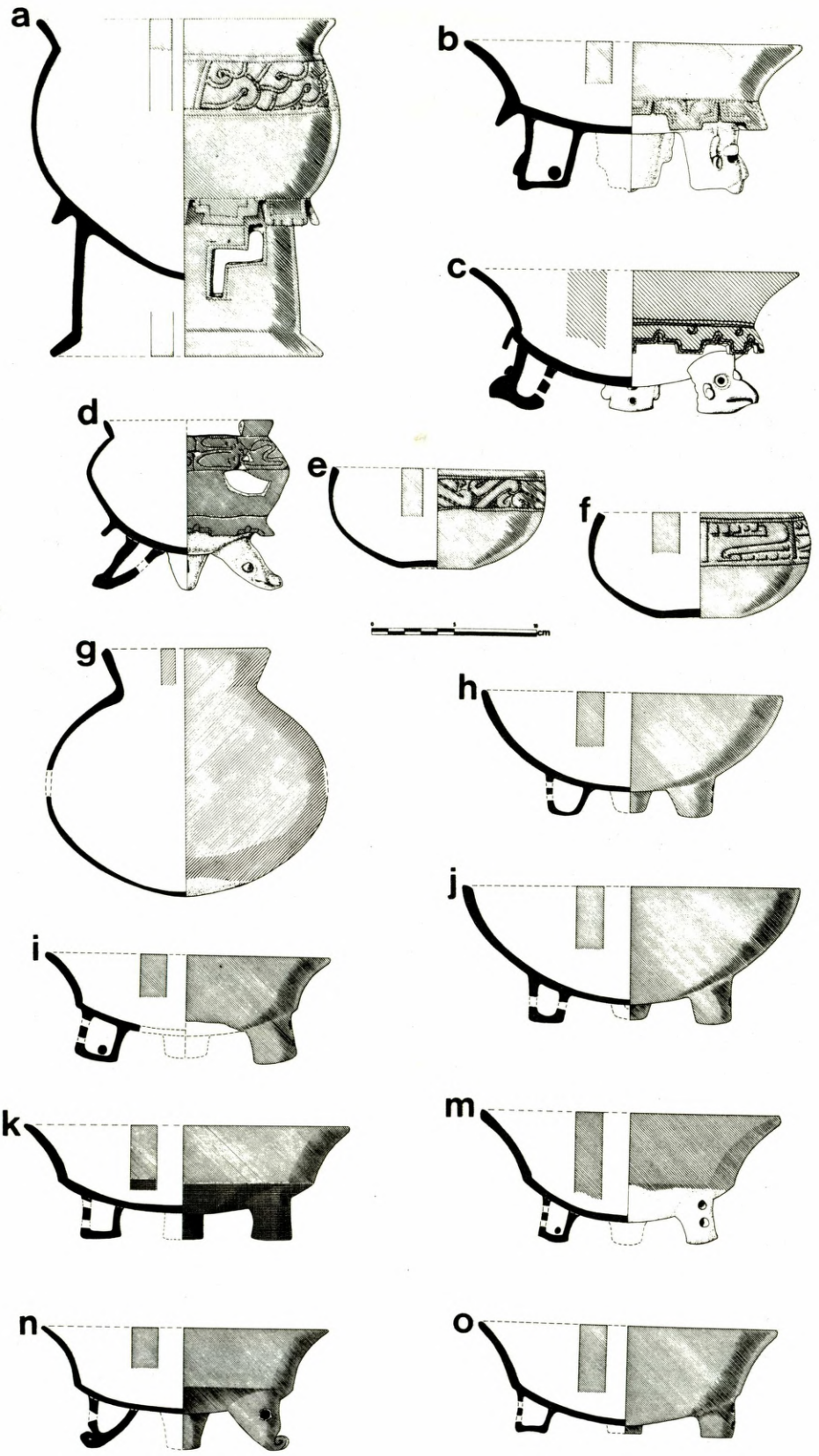
Continuity is in evidence in the persistence of the emphasis on post-slip incised decoration. The slipped flanged censer with pedestal base (Fig. 5a) continued to be made (Fig. 7a), though it was diminished in size. The penchant for hollow effigy feet continued, though the forms of the flanged bowls to which they were attached changed significantly, as did the angle and resting surface of the feet, which tended to be flat (Fig. 7b, c). It is at this time that the characteristic "sag-bottom" bowl, best known from the site of Tulum (Sanders 1960; Fig. 4a) made its appearance at Lamanai; it is certainly a marker for this phase (Fig. 7b, c, i, k-o). Hollow vented feet diminish in size, and a common form is cylindrical with a vertical pair of circular vents (Fig. 7h-m, o). The Peten-central Belize "slipper" or "scroll" foot is not a Postclassic form at Lamanai, but a variation makes a late appearance at the site in the vessel illustrated in Figure 7n, found in a burial along with the "Tulum-like" sag-bottom bowl with vented cylindrical feet in Figure 7k.

The preferred slip color changed to red in the Cib phase, and the slip surfaces are not as lustrous as are

Fig. 7.

a. Lamanai, LA 24714. N10-4, Burial N10-4/46; carved bone tube also from this burial (Pendergast 1981).
b. Lamanai, LA 63/1. Midden at east face of N10-4.
c. Lamanai, LA 247/15. Burial N10-4/46.
d. Lamanai, LA 264/1. Misc. Burial N10/10.
e. Lamanai, LA 247/12. Burial N10-4/46.
f. Lamanai, LA 247/22. Burial N10-4/46.
g. Lamanai, LA 102/8. N10-7, Burial N10-7/2.
h. Lamanai, LA 91/3. Burial N10-4/29.
i. Lamanai, LA 89/4. Burial N10-4/26.
j. Lamanai, LA 90/1. Burial N10-4/28.
k. Lamanai, LA 773/1. Camp Midden Burial 5.
m. Lamanai, LA 81/1. Burial N10-4/19.
n. Lamanai, LA 73/1. Burial N10-4/10.

Vessel Forms from Belize



those of the Buk-phase orange. Collared jars with horizontal strap handles have antecedents in Buk-phase forms, but are slipped red rather than orange. Unslipped utilitarian jars, bowls, and plates seem to show fewer changes from the Buk-phase repertoire than do the slipped ceramics but further analysis is necessary before continuity and change can be charted. As noted above, the dominant large-sized effigy censer of this phase is the well known "Mayapan-style" or Chen Mul Modeled type (Pendergast 1981c: Fig. 5; Smith 1971: Fig. 67). Smaller censers often take the form of cups with a pedestal base and effigy figure applied on the side (Pendergast 1985: Fig. 4b); alternatively, the effigy itself is hollow and was used to contain an offering of some kind (as in Pendergast 1985: Fig. 5c, though this particular example is probably Terminal Postclassic). Censers and jars with applied fillets and bosses (Cehac-Hunacti Composite) are also documented for this period, and continued to be made as late as the seventeenth century (see below).

The starting date for this phase is, as noted above, difficult to pinpoint, though the ceramics as described were standardized by about AD 1400. Though unslipped censer (and some jar) types such as Chen Mul Modeled and Cehac-Hunacti Composite continued to be made with little change through to Historic times, it is not yet entirely clear whether some other Cib phase vessels also remained in use at the time of the Conquest. However the presence of Yglesias phase Terminal Postclassic pottery together with European-made ceramics and European artifacts (see below) in several middens associated with Historic period structures has made it clear that the Yglesias ceramic assemblage, and not Cib phase pottery, dominated at the time the Spanish began their incursions into Yucatan and Belize in the mid-sixteenth century. Cib phase ceramics do not occur in these middens, except as occasional sherds, a situation that may be paralleled at Santa Rita where Tulum-related ceramics only show up in the core of Late Postclassic structures dated by Rita Red ceramics (D. Chase 1984; A. and D. Chase 1985:15).

Cib phase "Tulum-related" ceramics are relatively widespread in Belize and occur at least as far south as the Stann Creek District (Graham 1985:226-227). Unfortunately, however, they are often found on the surface, as at sites near Lamanai or at Colson Point (Graham 1985:226-227), or in mixed deposits, as at Tipu, or in post-abandonment accumulation, as at Altun Ha (Pendergast 1967, 1982a:169, 204, 220, 251, 257). At Colha, in northern Belize, vessels similar to those of the Lamanai Cib phase have been dated to the later part of the Postclassic sequence (Valdez, personal communication 1985), but as at Lamanai, chronological bracketing for this phase can only be estimated.

YGLESIAS PHASE
TERMINAL POSTCLASSIC-EARLY HISTORIC PERIOD

The vessels illustrated in Figures 8 through 10 are from middens associated with structures known to have been used at Lamanai in the early Historic period. European-made artifacts from these middens include Spanish olive-jar sherds of the Early and Middle periods (Goggin 1960), majolica ware, and Spanish iron artifacts, as well as glass trade beads. A substantial midden from another area of the site contained the same range of ceramics, but no artifacts of European manufacture; we do not know whether the absence of European goods implies a difference in time, or in the status of those responsible for the accumulation of the refuse. The Yglesias phase is tentatively dated to a period from 1450 - 1700.

Lamanai's Yglesias phase ceramics are quite distinctive and clearly separable from the Cib phase vessels that predate them. The vessels are generally thin walled and relatively crude in surface appearance compared to ceramics from earlier phases, but vessel walls are notably strong. Slips are red, orange-red, buff, and black, but they are opaque and lusterless, and often thin, and in fact they very often have the appearance of a stain (mineral pigment and water) rather than a true slip. Tripod bowls with sag-bottoms persist, but the flange diminishes to a ridge that is often notched or scalloped. Feet are bulbous, ovoid, tapered, cylindrical, or frequently phalliform, and vents are usually rather large, either ovoid or slit (Figs. 8, 10). Strap-handles were still used, and high-necked jars represent continuity from earlier times. Bowls and some jar forms have a distinctive bolstered or thickened lip (Fig. 9b, c, e, n).

A common wide-mouthed jar form is that of Figure 9i, in which the jar neck is vertical with two or more grooved circumferential lines around the rim exterior. Sherds from similar jars were recovered at Tipu, but do not have the grooves.

Small effigy censers are similar to those of the preceding Cib phase (Chen Mul Modeled), though we are beginning to isolate changes in style that may be distinctive of the Terminal Postclassic-Early Historic period (representative effigy censers from this phase are illustrated in Pendergast 1984: Fig. 1, 2; 1986: Fig. 5b, c). Only a small number of fragments of the large, Mayapan-style Chen Mul Modeled effigy censers (as in Pendergast 1981c: Fig. 5) have been recovered from Yglesias middens. Censers and jars with applied fillets and bosses continued to be manufactured into the seventeenth century; one example (Pendergast 1985: Fig. 5d) was found intruded into the chancel floor of Lamanai's second church, a post-AD 1641 deposit.

Fig. 8. a-d, f-i, k, p-q) Lamanai, LA 916, refuse pit sealed by the west floor of N11-18. e) Lamanai, LA 859, midden abutting north face of N11-18. j,m) Lamanai, LA 912, refuse pit at the northeast corner of N11-18. n) Lamanai, LA 858, midden at the northeast corner of N11-18. o) Lamanai, LA 909, refuse pit at the northeast corner of N11-18.

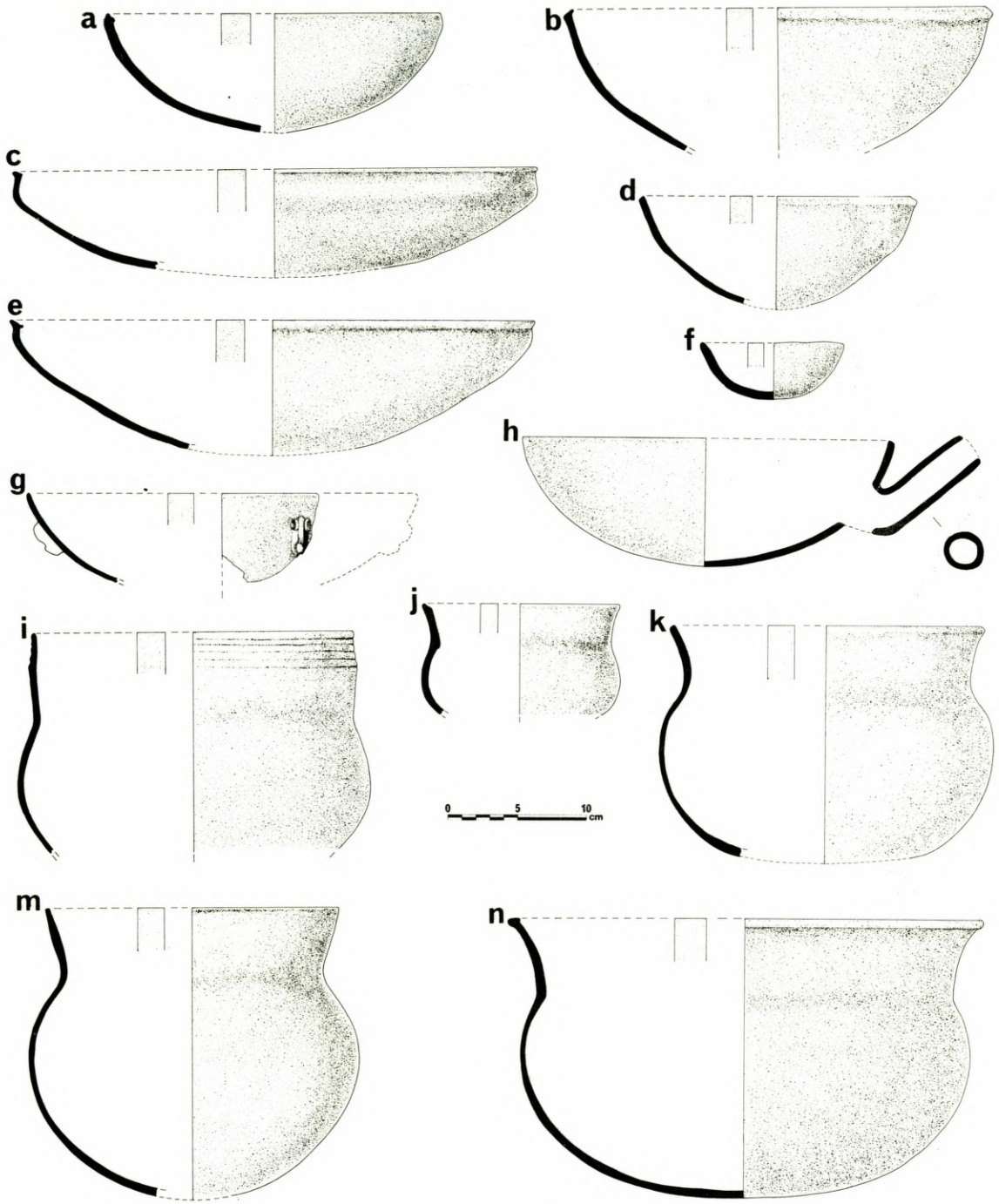


Fig. 9. a-n) Lamanai, LA 916, refuse pit sealed by the west floor of N11-18.

Fig. 10. a, d-f, i) Lamanai, LA 834, midden at the north face of N11-3. b, g, h) Lamanai, LA 823, midden at the north stair side, east face of N11-3. c) Lamanai, LA 859, midden at the northwest face of N11-3.

Vessel Forms from Belize

Vessels that are formally and typologically similar to those of this phase have been found in small numbers at Tipu; sherds were recovered from Historic period midden contexts (Rice 1985), and two cache vessels were found intruded into post-abandonment deposits of a Late Postclassic period platform (Fig. 6d, e). Rita Red vessels and some of the Chen Mul Modeled censer forms from the site of Santa Rita (D. Chase 1984) are similar in aspects of form and treatment to vessels in the Lamanai sample. Parallels also exist with Chen Mul Modeled and Cehac-Hunacti Composite censer types at Mayapan and possibly with some Navula Unslipped examples (see, e.g., Smith 1971: Figs. 62, 63), but most of the Lamanai repertoire is not comparable with Mayapan. The only similarity that may be significant is the treatment of the neck on some wide-mouthed jars (Smith 1971: Figs. 61a5 and c4) in which the rim rises vertically, or nearly so, from the slightly restricted neck (Fig. 9i-n).

To date, Yglesias ceramics have been securely identified elsewhere only at Tipu, and there only in small numbers. Indications are that at Tipu at the time of European occupation the local ceramic repertoire was dominated by Peten ceramics, such as Paxcaman Red, with little demonstrated influence from northern Belize ceramic styles. Though further intensive archaeological investigation at other sites in Belize and Yucatan is warranted before any real assessment of Yglesias phase ceramics can be carried out, it would seem that, like the Cib and Buk phase ceramics of earlier times, Yglesias phase pottery is a northern Belize-Yucatecan development rather than a central Belize-Peten phenomenon. It is clear that only very general parallels exist with the site of Mayapan itself, but once post-1450 archaeology is better known in Yucatan, it is not unlikely that Yglesias phase ceramics will be found to fit into the overall picture of the material culture of Yucatecan polities on the eve of, and following, the Spanish Conquest.

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6

La Secuencia Cerámica Preliminar de Isla Cerritos, Costa Centro-Norte de Yucatán

Fernando Robles Castellanos

Isla Cerritos es una ínsula pequeña de aproximadamente 200 m de diámetro localizada a 500 m fuera de la costa centro-norte de la península de Yucatán, y a 5 km al oeste del actual poblado de San Felipe (Fig. 1). La isla parece haber funcionado como uno de los principales puertos marítimos de intercambio de Chichén Itzá, alrededor del año mil DC (Andrews 1978).

Durante los veranos de 1984 y 1985 el sitio fue objeto de estudios arqueológicos preliminares (mapeo, recolección en superficie, y pozos estratigráficos) por parte de los integrantes del Proyecto Isla Cerritos, Yucatán, patrocinado por la National Geographic Society y el INAH, Mexico [1]. Uno de los principales objetivos de la temporada 1985 fue establecer un marco cronológico-cultural de referencia para auxiliar en el estudio y ubicación temporal de las diversas clases de artefactos rescatados durante ambas temporadas de campo.

Para tal finalidad fueron practicados un total de 17 pozos estratigráficos en varias de las estructuras arqueológicas del sitio. Todos los pozos fueron de 2 x 2 m por lado, y el material fue registrado de acuerdo al piso y relleno constructivo en que se encontró, salvo en los casos en donde la sedimentación permitió un control estratigráfico por existir capas perfectamente definidas. Excepción a la regla fueron los pozos 3 y 11, en donde tanto la falta de claridad en la demarcación de los estratos como la ausencia de niveles constructivos, nos obligaron a llevar un tipo de control métrico en la excavación (unidades de 20 cm de grosor).

Aproximadamente 16,000 tiestos (y varias vasijas enteras) fueron rescatados en contexto estratigráfico. La mayor parte del material fue analizado en el laboratorio de campo a nivel de grupo cerámico [2] acorde al sistema

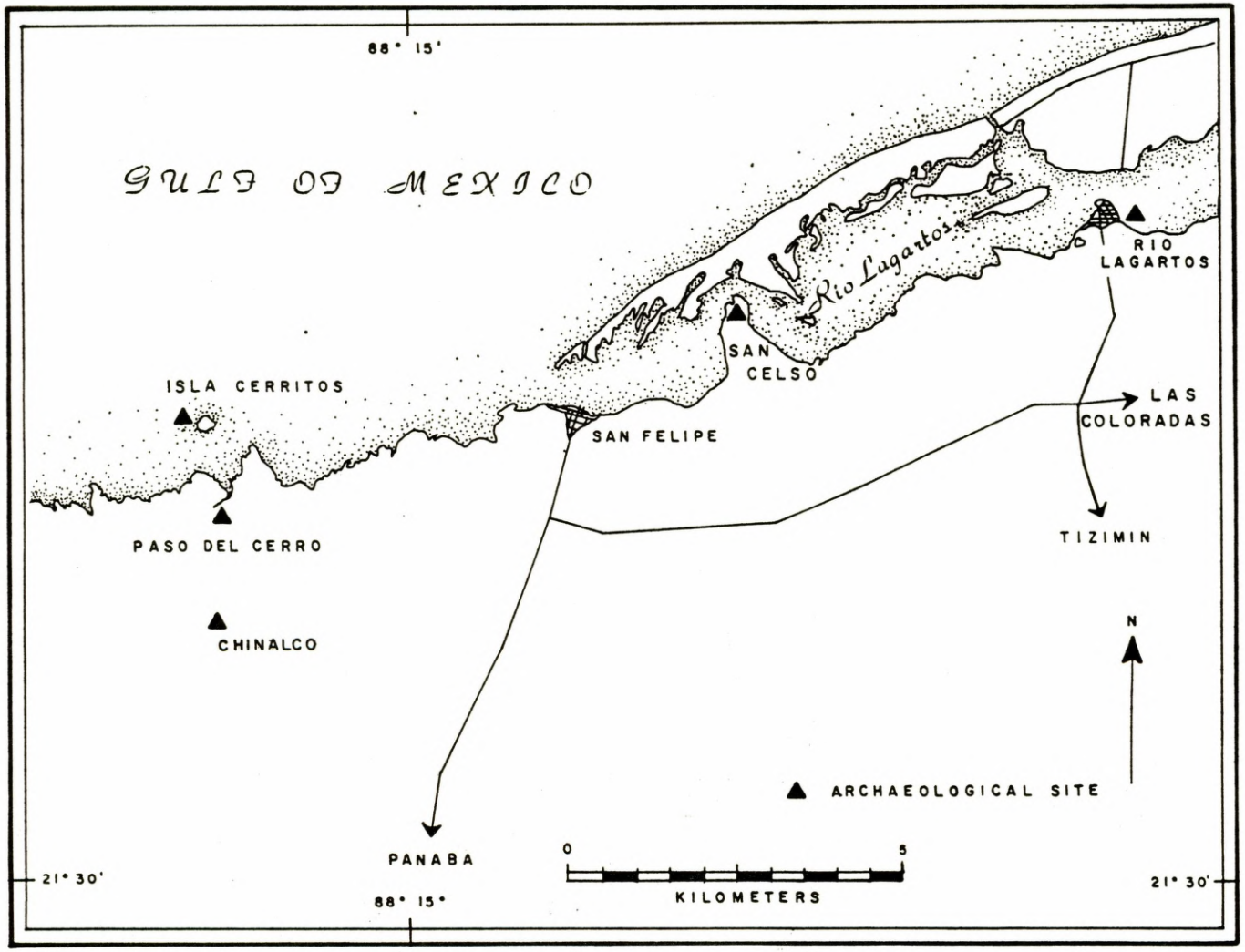

Fig. 1. La costa norte-central de Yucatan mostrando la ubicacion de Isla Cerritos.

tipo-variedad (Gifford 1960; Smith, Willey, y Gifford 1960; Smith y Gifford 1965).

Del material excavado en la temporada 1985, cinco complejos cerámicos han sido establecidos. En nuestro estudio cerámico entendemos la noción de complejo cerámico como una abstracción conveniente para definir períodos. En cada uno de ellos las relaciones porcentuales entre los grupos cerámicos que forman un complejo son lo bastante marcadas para diferenciarlo de otros complejos, y sus límites temporales dependerán del comportamiento variable de cada uno de los grupos cerámicos. Por lo tanto, los complejos cerámicos no son unidades absolutas y mientras algunos grupos pueden ser ubicados en un solo complejo, otros podrán ser componentes de uno o más complejos.

Los nombres de los complejos cerámicos de Isla Cerritos, desde el más antiguo hasta el más reciente, son: Xauminto Chicanel (+/- 100 AC al 400 DC); Trompillo Cochuah (300 al 750 DC); Chacpel Cehpech (700 al 900 DC); Jotuto Sotuta (850 al 1150/1200 DC); y Tomburro Tases (en algun lapso entre los siglos XIII al XVI DC, inclusive).

LA SECUENCIA CERAMICA

Complejo Xaumito Chicanel (ca. 100 AC al 400 DC)

Las evidencias más tempranas de un asentamiento humano en Isla Cerritos (y posiblemente también en la región aledaña) se encuentran representadas por el complejo Xaumito.

En términos generales, este primer complejo cerámico se caracteriza por el predominio de los grupos cerámicos Sierra, Xanabá, y, principalmente, Chancenote. Así como por la reducida presencia (pero significativa en el aspecto cronológico) de tiestos de los grupos Unto, Ucú, y Polvero, mejor representados en otros sitios del área maya y fechados para el Preclásico Tardío y/u horizonte Chicanel.

Los materiales Xaumito muestran estrechos vínculos tipológicos tanto con la cerámica cotánea de los sitios del oriente como del occidente del septentrión peninsular, no obstante que la abundante presencia de materiales Chicanel en nuestras colecciones nos indica también un estrecho contacto entre los habitantes de Isla Cerritos con las comunidades del área maya central.

Por ser la cerámica más temprana hasta ahora hallada tanto en Isla Cerritos como en la región costera vecina, los materiales Xaumito son de especial interés, ya que ellos nos pueden indicar el origen de los primeros habitantes que llegaron a la región. Estos pobladores, si

en verdad fueron los primeros en arribar, llegaron tardiamente (segunda mitad del horizonte Chicanel) y, como hemos indicado, con una tradición cerámica desarrollada.

En efecto, además de poder ubicarse tipológicamente los materiales Xaumito dentro del horizonte Chicanel tardío, una muestra de carbón asociada a este complejo, obtenida en el estrato más profundo del pozo 12, dió la fecha C-14 calibrada de 85 AC [3] (Tabla #1).

Tabla #1. Fechas C-14 obtenidas en la temporada de campo 1985 del Proyecto Arqueológico Isla Cerritos, Yucatan.

#LAB	MATERIAL	ANOS C-14 AP (no corregida)	FECHA C-14 (no corregida)	FECHA C-14 (calibrada) (1)	COMPLEJO CERAMICO
14084 (2)	carbon	2040+/-80 AP	90 AC	85 AC	Xaumito
14081 (2)	carbon	1290+/-70 AP	660 DC	740 DC	Chacpel
14082 (2)	carbon	970+/-60 AP	980 DC	1060 DC	Jotuto
14083 (2)	carbon	940+/-60 AP	1010 DC	1075 DC	Jotuto
14085 (2)	Mangle	850+/-60 AP	1100 DC	1152 DC	Jotuto
I-14244 (3)	Mangle (madera)	1100+/-80 AP	850 DC	903 DC	Jotuto

(1) Las fechas calibradas son el punto medio dentro de los rangos temporales en las tablas de calibración en Klein et al. (1982).

(2) Beta Analytic, Inc., Coral Gables, Florida.

(3) Teledyne Isotopes, Westwood, New Jersey.

No existiendo hasta el momento evidencias de un asentamiento anterior al de los materiales Xaumito, y proviniendo la fecha 85 DC de uno de los niveles de ocupación más tempranos en la isla, consideramos que los

primeros ocupantes de Isla Cerritos debieron haber llegado alrededor del año 100 AC. El análisis final de nuestro material y futuras excavaciones tanto en la isla como en los sitios de la región podrán corroborar o desechar nuestras observaciones tentativas.

Complejo Trompillo Cochuah (300 al 750 DC)

Este segundo complejo tiene entre otras peculiaridades la aparición de tiestos con policromía Tzakol negro-y-rojo-sobre-naranja (grupo Dos Arroyos), marcador del horizonte Tzakol en la sub-área maya central. Sin embargo, su reducido número en nuestras colecciones nos indica que esta clase de alfarería polícroma debió ser importada de las comunidades del sur. Asimismo, es durante este complejo que la decoración bícromo-incisa (grupos Carolina, Dzilam, y Huachinango), que comienza a manifestarse en la cerámica del complejo Xaumito, llega a caracterizar a la cerámica producida durante el Clásico Temprano no solo en nuestro sitio de estudio sino en todo el noreste de la península de Yucatán (Robles 1980). La alfarería culinaria con decoración escobetillada (grupo Chancenote) continuó siendo la cerámica predominante también durante este complejo, aunque para entonces aparecen en numero reducido los tecomates lisos Saban Burdo: variedad Becoob que tipifican la cerámica culinaria de los sitios de la esfera Cochuah Oriental en el norte de Quintana Roo (ibid.).

Acorde a nuestra evidencia estratigráfica, existe una transición directa del final de este complejo a los materiales del siguiente complejo Chacpel Cehpech. Una fecha C-14 calibrada de 740 DC obtenida dentro de uno de los estratos transicionales entre los complejos Trompillo y Chacpel, nos sugiere a más tardar el año 800 DC como fecha tope del complejo Trompillo Cochuah. Viene a reafirmar esta fecha divisoria el consenso general entre los ceramistas del norte de Yucatán de fechar el inicio de la cerámica Pizarra Puuc (grupo Muna) posterior al año 700 DC; y la cerámica Pizarra Puuc, como se verá más adelante, es una de las cerámicas diagnósticas del complejo Chacpel Cehpech de Isla Cerritos.

Complejo Chacpel Cehpech (700 al 900 DC)

Caracteriza a este complejo el predominio de los materiales Cehpech (Smith 1971). Empero, de manera muy distinta a lo esperado, las cerámicas Cehpech de Isla Cerritos guardan estrechos vínculos tipológicos con la alfarería cotánea de los "lejanos" sitios de la región del Puuc. Las relaciones con los sitios "Cehpech Oriental" del noreste peninsular (Robles 1980), mucho más cercanos a la isla, están limitadas al empleo de tecomates y ollas Vista Alegre Estriado; aunque hay que hacer notar que este grupo (Vista Alegre) es uno de los más numerosos y

diagnósticos del complejo Chacpel.

En terminos generales la alfarería Cehpech del complejo Chacpel está compuesta por los grupos Muna (Pizarra Puuc), Teabo (Pizarra Rojo), Ticul (Pizarra Delgado), Chum (Puuc Burdo) y, en menor número, por los grupos alóctonos Chablekal (Gris Fino), Balancán (Naranja Fino Z) y Saxché-Palmar (policromía Tepeu 1-2).

Uno de los hallazgos más importantes de la temporada de campo 1985 en Isla Cerritos para el entendimiento de la historia cultural del norte de Yucatán, fue haber encontrado constantemente una numerosa cantidad de tiestos de los grupos Dzitás (Pizarra Chichén), Sisal (Chichén Burdo) y Silhó (Naranja Fino X), componentes del complejo Sotuta Sotuta de Chichén Itzá del Postclásico Temprano (Smith 1971), en asociación estratigráfica con los materiales Cehpech del Clasico Terminal. De hecho no podimos observar ningún estrato Chacpel Cehpech en nuestras excavaciones carente de materiales Sotuta. Sin embargo, los tiestos de los grupos cerámicos Dzitás, Sisal y Silhó continuaron siendo numerosos durante el siguiente complejo· Jotuto Sotuta, cuando las cerámicas identificadas como Cehpech (Puuc) en Isla Cerritos caen en desuso o dejan de ser importadas y/o producidas en número significativo.

Esta evidencia estratigráfica nos está indicando que seguramente varios de los grupos cerámicos que constituyen a los "complejos-esfera" Cehpech (del Puuc) y Sotuta (de Chichén Itzá) son en gran parte contemporáneos. También indica que la presencia y/o ausencia de cualquiera de ellos, o la relativa (parcial) existencia de alguno o varios de ellos en los complejos cerámicos de los sitios del norte de Yucatán se deba también a variables sincrónicas (i.e., distintos sistemas de distribución de la producción cerámica, diferentes áreas de interacción comercial, sistemas políticos en competencias preferencia por cierta clase de alfarería, etc.), y no necesariamente al factor tiempo (i.e., cambios histórico-culturales).

En nuestra opinión, úrge una revisión a los límites temporales y distribución geográfica de cada uno de los grupos cerámicos que forman a los complejos (en la práctica empleados como esferas cerámicas) Cehpech y/o Sotuta del norte de Yucatán, antes de poder llegar a una conclusión válida sobre su parcial o total co-existencia o traslape.

No podemos seguir empleando metodológicamente ambos conceptos, Cehpech y Sotuta, como unidades espacio-temporales absolutas para determinar en bloque las relaciones cerámicas y limites temporales de los diversos grupos cerámicos que los integran, ignorando que en la realidad cada uno de los grupos cerámicos tiene una

temporalidad y distribución geográfica variable e independiente. El cambio en la cerámica no es un proceso uniforme en el cual todos los grupos cerámicos de un complejo son sustituidos por otros distintos en un momento determinado. Aunque, al parecer, ésta es la tónica que hemos seguido muchos de los ceramistas mayas, implicita o explictamente, cuando establecemos las secuencias cerámicas.

La numerosa presencia de tiestos de los grupos Dzitas, Sisal, y Silhó dentro del complejo Chacpel Cehpech en Isla Cerritos nos está indicando, entonces, que varios de los grupos que tradicionalmente hemos asignado al complejo Sotuta Sotuta de Chichén Itzá del Postclásico Temprano (Smith 1971), debieron haber comenzado a producirse en un período anterior al que previamente habiamos pensado.

Complejo Jotuto Sotuta (850 al 1150/1200 DC)

El complejo Jotuto representa sin duda alguna el apogéo cultural de nuestro sitio de estudio y posiblemente también el último período de ocupación permanente en la isla.

En el aspecto cerámico dos acontecimientos marcan el inicio de este complejo: 1) la virtual desaparición de la alfarería relacionada con la esfera Cehpech del Puuc y 2) la aparición y numerosa ocurrencia de tiestos del Xcanchacán Negro-sobre-crema, tipo mayoriatario del grupo Kuklá (Peto Crema).

Cuando aconteció este cambio en la cerámica de Isla Cerritos? Es todavía una pregunta difícil de responder con precisión. Sin embargo, parece ser que el complejo Jotuto debió empezar a formarse durante la segunda mitad del siglo noveno DC. Varias son las evidencias que nos sugieren lo anterior.

Una muestra de madera de mangle, proveniente de uno de los depositos más tempranos con materiales Jotuto, produjo la fecha calibrada de 903 DC [4]. Otros dos fragmentos de carbón, también asociados a materiales Jotuto cuando al parecer Isla cerritos se encontraba en su apogéo cultural, diéron las fechas calibradas de 1060 y 1075 DC.

Otro punto importante es el fechamiento del Xcanchacán Negro-sobre-crema en el norte de Yucatán. Todas las evidencias estratigráficas hasta ahora conocidas indican que la aparición del Xcanchacán debió occurir poco antes o poco después del año 900 DC. Las únicas fechas C-14 asociadas al Xcanchacán Negro-sobre-crema, fuera de Isla Cerritos, provienen de la cueva de Balancanché, cerca de Chichén Itzá. Cuatro muestras de carbón produjeron una

serie de fechas no calibradas que fluctuan entre los años 860 y 922 DC, y que al calibrarse caen entre los años 927 y 1020 DC (Andrews V 1978; Andrews IV and Andrews V 1980; Robles 1981).

En términos globales, el complejo Jotuto está definido por la continuidad de los materiales Sotuta (grupos Dzitás, Sisal, y Silhó) del complejo anterior Chacpel Cehpech, por la reducida presencia de tiestos y vasijas Tohil Plomizo, así como por la ya mencionada abundancia del tipo Xcanchacán Negro-sobre-crema.

Es importante hacer notar que el tipo Xcanchacán Negro-sobre-crema no es solamente un marcador de gran utilidad para datar el final del período Clásico en el norte de Yucatán, sino también es el único tipo cerámico manufacturado en Yucatán con carácter pan-norteño, y que se encuentra distribuido en cantidades considerables en la mayoría de los sitios del septentrión peninsular. En nuestra opinión, la presencia del tipo Xcanchacán bien puede indicar la expansión comercial y/o influencia militar de Chichén Itzá en el norte de Yucatán acaecida poco antes del ocaso del período Clásico.

Hemos datado el final del complejo Jotuto Sotuta alrededor del año 1200 DC, fecha tradicional de la caída de Chichén Itzá y, a jusgar por la evidencia estratigráfica, este momento marca también el término de la ocupación permanente en Isla Cerritos.

Complejo Tomburro Tases (en algun lapso entre los siglos duodécimo y décimosexto DC)

Las evidencias más tardías de una ocupación prehispánica en Isla Cerritos están representadas por el complejo Tomburro Tases. Los materiales de este complejo fueron hallados en la superficie y sin ningún contexto estratigráfico. Su definición como integrantes del complejo Tomburro está fundamentada en argumentos tipológicos.

Compónen a este complejo un escaso número de tiestos pertenecientes los grupos Navulá (Mayapán Burdo), Mama (Mayapán Rojo) y Payil (Tulum Rojo) del horizonte cerámico Tases del Postclásico en el norte de Yucatán (Smith 1971). La mayor parte de estos materiales, sin embargo, son fragmentos de incensarios Chen Mul Modelado (tipo cerámico del grupo Navulá), de clara función ceremonial.

La escasa muestra cerámica del complejo Tomburro nos está sugiriendo que para entonces debió haber existido un numero bastante reducido de habitantes en la isla, qizá una familia o dos con una economía marina o, también, la posibilidad de un campamento temporal de pescadores.

El hecho de que los tiestos de este complejo fueron recolectados sobre o dentro del escombro que cubre a los edificios y, en un caso significativo, arriba de los restos de un techo desplomado, nos sugiere que esta ocupación debió ocurrir cuando la isla estaba ya abandonada y las estructuras en ruinas.

Cuando y que duración tuvo la última ocupación prehispánica en Isla Cerritos? Es y será sin duda alguna una pregunta difícil de precisar. Lo único que podemos decir por el momento es que las últimas actividades prehispánicas en la isla debieron haber sucedido en algún momento entre la caída de Chichén Itzá y el siglo décimosexto DC.

Agradecimientos

Agradezco el apoyo económico que me ha venido brindando el Consejo Nacional de Ciencia y Tecnología de Mexico durante la segunda fase de la investigación.

Notas

[1] Los integrantes del Proyecto Arqueológico Isla Cerritos, Yucatán son: Dr. Anthony P. Andrews (New College de la University of South Florida), Arqlgo. Tomas Gallareta Negron (INAH, Yucatán), Arqlgo. Rafael Cobos Palma (ECAUADY, Yucatán), Pasante de Arqueología de la ECAUADY, Pura Cervera Rivero, así como el autor de este artículo.

[2] La categoría de grupo cerámico es una unidad analítica no muy amplia que reune varias unidades menores (i.e., tipo-variedades) que se hallan estrechamente relacionadas, permitiendo operar de una manera fluida en el computo de miles de tiestos. Los grupos cerámicos identificados en Isla Cerritos han sido descritos en varios reportes. Para mayor información sobre ellos consultar Smith (1971), Ball (1978), y Robles (1980).

[3] Todas las fechas calibradas que se dan en este artículo son el punto medio dentro de los rangos temporales en las tablas de calibración en Klein et al. (1982).

[4] Otro fragmento de madera de mangle, hallado en el mismo estrato, produjo la fecha C-14 calibrada de 1152 DC. Sin embargo debido a su posible contaminación y a la profundidad del estrato en que se encontró, consideramos que esta fecha es muy tardía. La fecha 903 DC es más razonable en todo respecto.

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7

The Ceramic Sequence of South-Central Quintana Roo, Mexico

Robert E. Fry

The Uaymil Survey Project located, mapped, and tested sites in an area of approximately 7,500 sq. km in south-central Quintana Roo. The modern boundaries for this zone are the Escarcega highway and the Chetumal-Carillo Puerto highway to the south and east. The goals of the project were the delineation of patterns of major site location, the assessment of relationships with surrounding regions in architecture and ceramics, and the chronological patterns of major sites (Harrison 1973, 1981; Fry 1973, 1974). Although scores of sites were noted, only the major sites and a few selected smaller sites were intensively mapped and sampled. Surface collections were made wherever feasible, but except for censers, surface materials were scanty at site centers. The excavation program concentrated on getting the longest possible sequence from public architecture without major substructure excavation. At most of the larger sites, the posthole sampling approach (Fry 1972) was used to locate surface middens associated with larger residential complexes close to major public architecture.

It was predicted that archaeological collections from the region sampled would be heterogeneous. The region itself is environmentally complex and transitional from the south-central lowlands to the northern Yucatecan plains. In the southernmost part of the zone the undulating ridge and bajo terrain is associated with the central and southern lowlands. To the east is Lake Bacalar and the confluence of major rivers in and near the Bay of Chetumal. North of Lake Bacalar are areas of internal drainage marked by numerous small lakes and large grassy savannas. To the northwest and far north there is flatter but undulating limestone bedrock, rising to the eastern wing of the Puuc hills near the site of Uomuul. These geographical zones are also marked by different

suites of soil types and significantly different vegetational patterns.

From the ethnohistoric records we learn that the region was distinctive, comprising part of the contact period cacicazgo of Chetumal as well as the more shadowy and poorly known polity of Uaymil. In late prehistoric times, the area seems to have been one of the gateways used by the northern Yucatecan Maya polities for access to the Bay of Honduras and also Peten via the New and Hondo river systems.

Fifteen sites scattered throughout the survey zone (Fig. 1) were more intensively sampled. Collections of over 90 rim sherds were recovered from twelve of the sites, with total rim sherd collections ranging from 90 at the smaller site of Lunaticos to 755 from the site of Las Panteras (excluding censer sherds). Because of size, lack of diagnostic attributes, or preservation, only about 1,500 of the approximately 4,200 rim sherds were classifiable using the type-variety system, though all had important attributes coded using a specially created ceramic codebook.

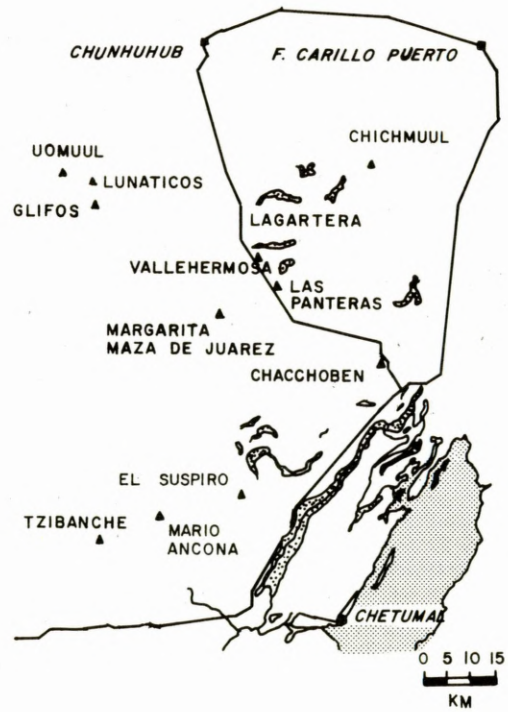

Fig. 1. Map of southern Quintana Roo showing sites with the largest ceramic collections.

Because of the sampling procedures necessitated by time limitations, there are undoubtedly biases and systematic gaps in the total ceramic sequence. However, by following a standardized set of principles for excavation somewhat comparable data are available from each site. In presenting the ceramic sequences from the zone a number of problems present themselves. First, the region sampled is quite large and the samples are relatively small. Thus for some periods examples exist from only two or three of the sites, necessitating the creation of a composite sequence. It is also clear that there were strong differences in regional traditions, especially in the Late and Terminal Classic periods.

Rather than create named ceramic complexes which are region-wide I instead discuss the ceramics from larger, well-recognized time blocks. Eventually it should prove possible to create some complexes for the most heavily sampled sites and combine them into a true regional sequence.

THE CERAMIC SEQUENCE FROM SOUTH-CENTRAL QUINTANA ROO

Middle Preclassic

Given the sampling procedures of the Project it is not unexpected that evidence for Middle Preclassic occupation is quite scanty, consisting of a handful of earlier types mixed in with Late Preclassic types. Examples come from only two sites, both in the area northwest of Lake Bacalar, Margarita Maza de Juarez and Uomuul. Types represented include Joventud Red, Chunhinta Black, and Muxanal Red-on-cream. Also present are unslipped(?) incised neck tecomates.

Late Preclassic

Late Preclassic material is much more abundant, being found at eleven of the fifteen sites tested. Late Preclassic ceramics are associated primarily with construction fills under major plaza floors, indicating substantial construction at public architectural loci during this time span. Types within Paso Caballo Waxy ware are predominant, including the ubiquitous Sierra Red, as well as Polvero Black and scanty quantities of Flor Cream. Both the plain Sapote and striated neck Rastro variety of Sapote Striated are also represented throughout the region, showing the same uniformity of type complexes typical of this time span. The regional collections belong solidly within the Chicanel sphere. There are regional differences in varieties with the more northerly site having the Maza variety of Sierra Red, which is more orange in color, with a less waxy, more opaque slip. There is also a marked tendency for whitish reduced fire-

clouded areas on the exterior and interior bases of vessels.

The sites that were the largest in the Classic period have the largest Late Preclassic collections, but this may be due entirely to sampling factors, because these sites have the largest plaza areas where deeper sampling could be done readily. The largest Late Preclassic collections derive from the sites of Tzibanche and Las Panteras, with medium sized collections from Chacchoben, Margarita Maza de Juarez, and Uomuul. At the southern part of the survey zone, evidence of ties with adjacent regions in northern Belize is documented with the discovery of large quantities of sherds of Laguna Milagros Red at the site of Laguna Milagros. This distinctive thin walled type with its fugitive redware slip may have been a specialized cache vessel (Fry 1983: Fig. 11-2). The type has been found as far south as the Pulltrouser Swamp settlement of Kokeal in northern Belize.

Protoclassic

Little material was encountered in project collections which would correlate with a Protoclassic occupation. All of the material comes from the site of Tzibanche and includes one piece of imitation Usulutan and several possible mammiform footed vessel fragments, as well as a few sherds that appear to be Aguacate Orange: Felipe variety. This type is quite common in northern Belize (Pring 1977) and further ties the southeasternmost part of the zone to the Chetumal Bay interaction sphere.

Early Classic

Early Classic material is fairly abundant in the survey zone with clear evidence of major construction at many of the sites, especially in the southern part of the zone. The region clearly participates in the Tzakol sphere, with Dos Arroyos Polychrome basal flange bowls, San Blas Red-on-orange, Gavilan Black-on-orange, and Tigrillo Brown-on-orange dishes and basal flange bowls. Balanza Black and Lucha Incised are also represented, predominantly in the southernmost sites. Aguila Orange is the dominant type for large monochrome bowls and jars, though as in other regions these were presumably locally produced and show slight distinctions in slip color, paste, and shape characteristics. The dominant coarseware is Triunfo Striated. Relations are also seen with sites to the west and north, including a few trickle decorated jars in Xoclan Trickle-on-red which is found at Kohunlich, Becan, Yaxuna, and Balankanche. Trickle wares are not as common as at Becan and are restricted to narrow mouth jar forms.

The peak of construction and perhaps the heaviest

occupation of the southernmost sites would appear to date to the late phase of the Early Classic into the earlier Late Classic. This Middle Classic period is marked by a strong similarity with collections from northern Belize and Becan. The Suspiro variety of Dos Arroyos Polychrome is very similar to varieties from the Rio Hondo drainage and is confined to the southern sites of Tzibanche, Mario Ancona, and El Suspiro (Fig. 2). Exotics include red slipped cylindrical tripod vases with both hollow and solid slab feet (Fig. 3). These again tie in with the Rio Hondo complexes. Blackware bowls and vases with polychrome stuccoed decoration are also encountered. Sites north of Lake Bacalar do not seem to participate in this regional tradition as strongly, though one fine biface blade of green obsidian did come from the site of Chichmuul.

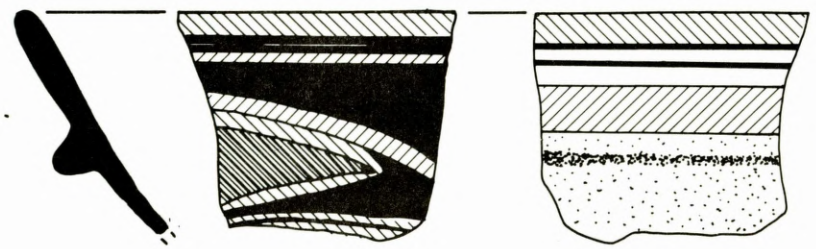

Fig. 2. Dos Arroyos Orange Polychrome: Suspiro variety basal flange bowl fragment from the site of El Suspiro. (half scale)

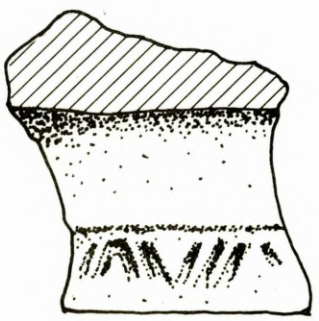

Fig. 3. Solid stamp decorated vessel foot from the site of Mario Ancona. (half scale)

Late Classic

The Late Classic period is one of marked diversity in the ceramic tradition, continuing and expanding on the rifts that began to appear in the Early Classic. A number

of differing regional traditions in utilitarian pottery production were developed that were fairly highly localized. While the southern sites of the zone continue to show strong interaction with southern lowland traditions and even continue to receive tradewares such as Saxche and Palmar Orange Polychrome, the northern sites begin to affiliate with the slateware traditions which are generally associated with the northern Yucatecan sites and sites in northern and central Campeche.

In the southern and south central zones, monochrome black and brown wares become more important in monochrome wares with the most common type, Herradura Brown-black, having a more opaque slip, often being unslipped on vessel exteriors. The most common form is an outflaring-side deep bowl or basin with an incised groove around the interior medial wall (Figs. 4a, 4b). This type resembles a similar shape class in northern Belize but there the predominant color is orange-red. The northwestern cluster of sites has its own distinct utilitarian tradition in basins with the dominant type a variegated ware called Uomuul Orange-cream, having a distinct panelled-wall basin form (Figs. 4c, 4d). Also found here are Holactun Black-on-cream basins with large T-shaped lips. Trade can be seen in the presence of Campeche local types such as Traino Brown and Becanchen Brown at Uomuul and Las Panteras. The most widespread slatewares are the narrow-mouth jar categories such as Sacalum Black-on-slate and Chumayel Red-on-slate. A wide variety of unslipped striated jars are highly regionally specific, representing closer similarity to Encanto Striated in the southern sites, while the Uomuul area has Yokat Striated.

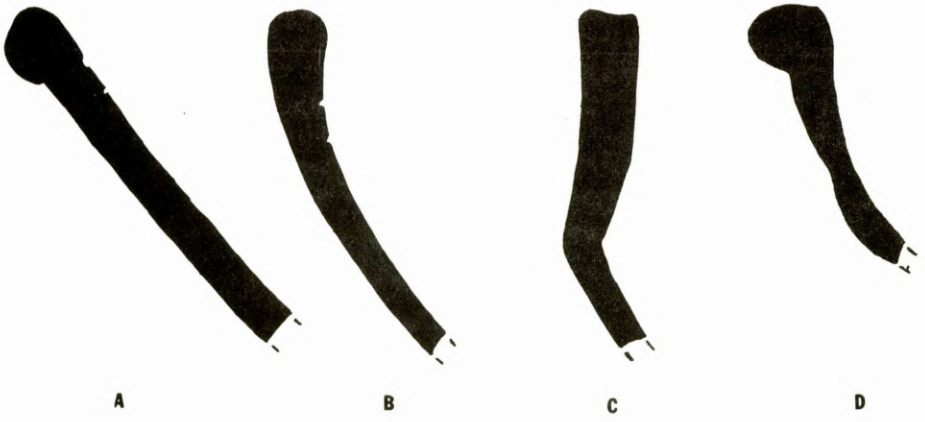

Fig. 4. a, b) Herradura Brown-black: Boca Paila variety. c, d) Uomuul Orange-cream: Uomuul variety. (half scale)

The southern sites seem to show continuing interaction with the northeastern Peten traditions, at least early in the Late Classic, having both local versions of Saxche Polychromes with more opaque and non-colloidal slips and paints, and true Saxche Polychromes, which are probably tradewares. In addition, locally strong regional traditions include imitation Saxche tradition types with unslipped exterior and minuscule medial ridges. These are also found in northern Belize and constitute a regional tradition linking areas as far south as Altun Ha with sites as far north as the Lake Bacalar zone. Other scarce regionally exchanged tradewares include Egoista Resist in the form of tall thin walled vases and a few examples of Azcorra Buff Polychrome, which may have been produced as far away as El Pozito (Ball 1977; Fry 1983).

Tradewares from the Campeche area include a few examples of Moro Orange Polychrome and Chuntuori Black-and-orange. These tend to be found in sites northwest of Lake Bacalar, which also show trade in utilitarian ceramics like the Traino and Becanchen groups. Blackwares include Molino Black and later Achote Black in both its yellow paste and pink paste variants. Unusual types that again tie in Becan, northern Belize, and the Quintana Roo region include scalloped lip Molino Black and Langostino Red round side basins.

The zone around Uomuul shows the strongest orientation to the northern Yucatecan traditions and belongs solidly within the Cehpech sphere. It also has its own regional orange dichrome and polychrome tradition of the Panteras group which coexists with both Thin and Puuc Slate wares. Thin Slate wares included both Ticul Thin Slate as well as Xul Incised, Tabi Gouged-incised (Fig. 5), and Las Higueras Impressed (Fig. 6). Puuc Slate wares include Muna Slate, Tekit Incised (Fig. 7), Akil Impressed, Nohcacab Composite, and Chumayel Red-on-slate. Along with Yokat Striated these are all diagnostics for the Cehpech sphere. Teabo Red is found in small quantities at several sites but does not appear to be a major component of the local Cehpech ceramics. The sites of Las Panteras, Chichmuul, and Margarita Maza de Juarez also have a significant frequency of slatewares, but without the full range of types or the more exotic ones like Nohcacab Composite. It is quite possible that these sites were more marginal members of the interaction complex associated with this sphere. Local slatewares are more variable in firing and cruder in execution in imitation of serving forms like Tabi Gouged-incised. These sites show greater interaction with sites farther south.

The later slatewares span the time between the Late Classic and Terminal Classic. Late diagnostics such as high annular base vessels appear, but no true fine paste

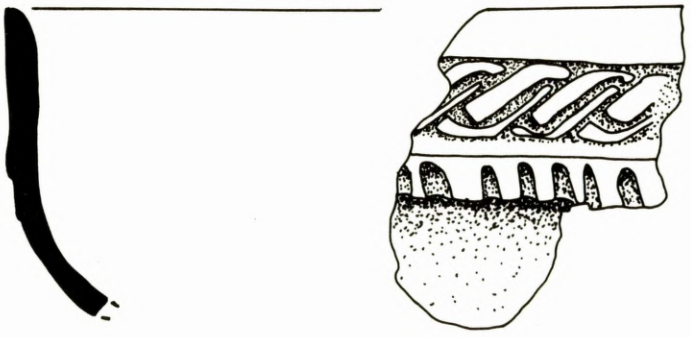

Fig. 5. Tabi Gouged-incised: Tabi variety bowl from the site of Uomuul. (half scale)

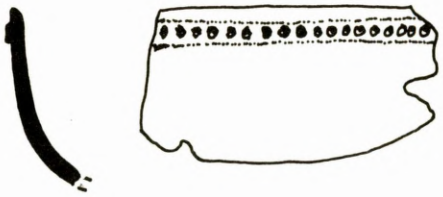

Fig. 6. Las Higueras Impressed: variety unspecified bowl from the site of Mario Ancona. (one-third scale)

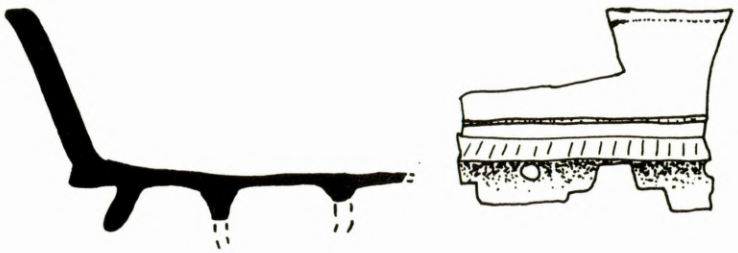

Fig. 7. Tekit Incised: variety unspecified tripod plate from the site of Chichmuul. (one-third scale)

vessels have been found in the zone except some possible Altar Orange fragments from the site of Tzibanche. One piece of Sahcaba Molded-carved was encountered at Las Panteras. Unusual exotics include ladle incense burners with piecrust rims. One of these is an unusual crocodilian effigy ladle incense burner from the site of Las Panteras, practically identical with one reported to be of Late Xcocom phase date at Becan (Ball 1977:122-124), and one of Pasion complex association from Altar de Sacrificios (Adams 1971: Fig. 101c).

The exact termination date of this tradition, which marks the cessation of major occupation of the sites sampled, is open to question. It is quite possible that the slateware traditions may well have continued into the Early Postclassic. Without the presence of imported tradewares such as the Fine Oranges or Plumbate wares exact dating of termination is impossible.

Late Postclassic

There is no evidence of Middle Postclassic occupation of the sites sampled. The Late Postclassic is also very scantily represented in the area intensively surveyed, although outside our formal concession we did note the heavy Late Postclassic occupation along the coast, especially along Chetumal Bay (Sanders 1960). Several sherds of Payil Red and Palmul Incised were found, most at minor sites such as the Ruben site on the ejido of Vallehermosa and the site of El Pedregal. The most abundant example of Late Postclassic ceramics were the incense burners found at most of the sites. Very abundant samples came from the sites of Margarita Maza de Juarez and Las Panteras with other examples from Ockat and Chacchoben. In interior sites like Tzibanche and Mario Ancona the simpler Cehac-Hunacti composite type is prevalent (Fig. 8), along with fragments of a finer cut and incised type. Cehac-Hunacti censers are found at Becan and other sites in eastern Campeche, Uaxactun, Tikal, and in the Hocaba phase at Mayapan. These censers occur in complementary distribution to the more prevalent Chen Mul composite modeled effigy incense burner that is found in great frequency at Ockat, Chacchoben, Las Panteras, and Margarita Maza de Juarez. There are significant differences in pastes within this type even at single sites, indicating either multiple centers of origin or changes within a long continuing tradition. The major difference from the corpus from Mayapan is the higher frequency of female torsos in the Quintana Roo collections, and their relatively smaller size.

CONCLUSIONS

It is clear that the ceramic history of the area

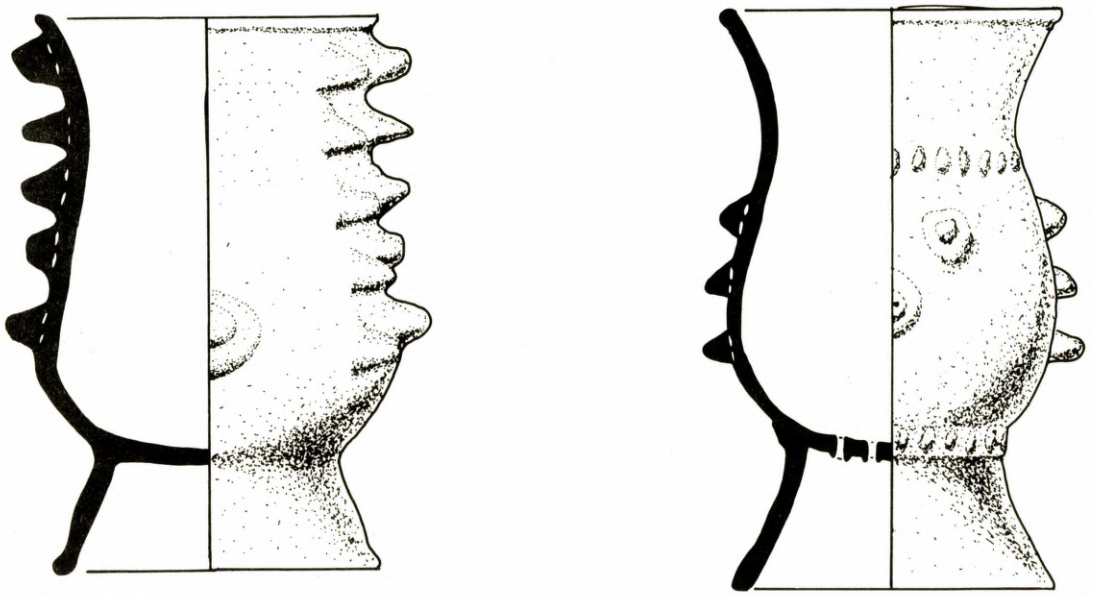

Fig. 8. Cehac-Hunacti Composite: variety unspecified censers from the site of Tzibanche. (one-quarter scale)

surveyed by the Uaymil Survey Project is long and complex. Much more excavation will be required to define the Preclassic sequence. The southern part of the survey zone, with its complex raised field systems and more Peten-like ridge and bajo environment, had continuing strong interactions with Peten in the Early and Late Classic and also reflects broad ceramic similarities and occasional interchange with northern and north-central Belize. The northern part of the zone is affiliated with the Cehpech sphere in the Late and Terminal Classic, and earlier in the Classic it also had some subtle stylistic differences in traditions indicating greater regional autonomy. The area adjacent to northern Lake Bacalar had a distinctive Late and Terminal Classic occupation with ties both to areas farther south and to the Puuc sites. This area is worthy of future research as a possible gateway region during this time period. Finally, further investigation is needed into the question of a distinctive Lobil phase in the interior (Harrison 1979) with Late Postclassic censers but with a scarcity of other ceramics.

Acknowledgments

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8

La Cerámica del Clásico Temprano desde Mundo Perdido, Tikal: Una Reevaluación

Juan Pedro Laporte y Vilma Fialko

La secuencia cerámica del Clásico Temprano del área Maya está sujeta a revisión siendo el problema fundamental la correcta división de las fases que integran el horizonte Tzakol en general o complejo Manik en Tikal. Desde 1967, Willey, Culbert, y Adams (1967:310) expresan que "durante la esfera Tzakol . . . tipos y modos se duplican a través de las tierras bajas, con poca tolerancia para la divergencia local en la decoración cerámica. Las cerámicas del área son extremadamente conservadoras al cambio." Es posible que el intercambio comercial y/o social fuera el mecanismo primario de difusión para la unidad cerámica (Ball 1976:327). La subdivisión debe apoyarse también en elementos adicionales a la tipología cerámica como historia dinástica y evolución arquitectónica.

Desde la formulación en tres fases definida para el horizonte Tzakol en Uaxactún, ha susistuido la incertidumbre sobre las características y fechas que responden a cada una de ellas. Trabajos posteriores en Altar de Sacrificios, Seibal, Barton Ramie, entre otros, no han logrado solucionar este dilema. Tampoco ha quedado claro en los análisis más recientes de Tikal, Yaxhá, Becán, y Edzná. Fue posible subdividir al horizonte Tzakol en Uaxactún, Tikal, Altar de Sacrificios, y Chiapa de Corzo, pero los medios y diagnósticos variaron radicalmente de secuencia a secuencia. R. Smith (1955) considera que estas subdivisiones constituyen fases y no complejos, lo mismo que en Tikal. En Altar de Sacrificios y Becán se forman dos complejos, uno de ellos integrado por dos fases.

En las tierras bajas Mayas, los grupos cerámicos mayoritarios se encuentran en los materiales domésticos estriados y "wares" lustrosos (glossy), tanto monócromos como polícromos. La cerámica monócroma de engobe lustroso es de color naranja representada en el grupo Aguila, material mayoritario en todas las secuencias del Clásico

Temprano. Otro grupo mayoritario es el Balanza, de color negro, con sus tipos decorativos Urita Gubiado-inciso y Lucha Inciso. Los polícromos son estadísticamente tipos mayoritarios encabezados por Dos Arroyos Naranja y Caldera Ante. Es usual el convencionalismo en los diseños geométricos, antropomórfos, y zoomorfos, combinados con la presencia de base anular y pestaña basal.

Las definiciones del horizonte Tzakol en diversos sitios de tierras bajas han proporcionado información sustancia para la mejor comprensión de los fenómenos culturales que tienden a reflejarse en la producción cerámica.

Tradicionalmente y en base a los materiales cerámicos de Uaxactún, el horizonte Tzakol se ha dividido en tres fases mayores (Fig. 1). Tzakol 1, entre ca. 250-350 DC, se caracteriza por vasijas de ángulo-Z agudo, ollas de cuello alto, y vasijas monócromas de color rojo-naranja. Tzakol 2, entre ca. 350-450 DC, que en Uaxactún traslapa la fase media y parte de la tardía del complejo Manik de Tikal, se distingue por los tipos polícromos rojo, negro, y gris sobre naranja; diversos bícromos y una mayor importancia del color crema; hay bases anulares y pedestal, vasijas tetrápodes, y trípodes con pestaña basal; algunos soportes son almenados o rectangulares huecos. Tzakol 3, situado entre ca. 450-550 DC, presenta tipos polícromos rojo, negro, y gris sobre naranja o crema, nuevas técnicas incluyen el estampado, el plano relieve, y el estuco pintado. Aparece el Naranja Delgado.

En Seibal se considera la fase Junco como un período general y sin posibilidad de subdivisión por la escasez de material y otras muestras de ocupación mayor en el sitio (Sabloff 1975). En Altar de Sacrificios, el complejo Ayn presenta fuerte continuidad con el Salinas Protoclásico. La fase temprana de Ayn incluye vasijas de ángulo-Z sin pestaña basal; continúan los soportes mamiformes. La fase tardía marca la aparición de polícromos de base anular, de trípodes cilíndricos con soportes rectangulares o almenados, y del grupo Balanza Negro, por lo que puede afiliarse al Manik 3-A de Tikal. El complejo Veremos equivale a Tzakol 3 (Manik 3-B en Tikal), asimilándose de esta manera a las tradiciones del noreste de Petén (Adams 1971).

Ball, en su estudio de las cerámicas de Becán, observa que la distribución del Chacsik temprano está restringida a solamente dos localidades. Esta fase se coloca entre 250-400 DC, es decir que incluye las fases Manik 1 y 2 de Tikal. Chacsik tardío es similar en componente a Tzakol 2-3, abarcando un corto período hasta 450 DC, siendo luego reemplazado por el complejo Sabucán, en forma un tanto abrupta, el cual es más extendido en el sito, apareciendo entonces el componente de carácter foráneo mencionado para

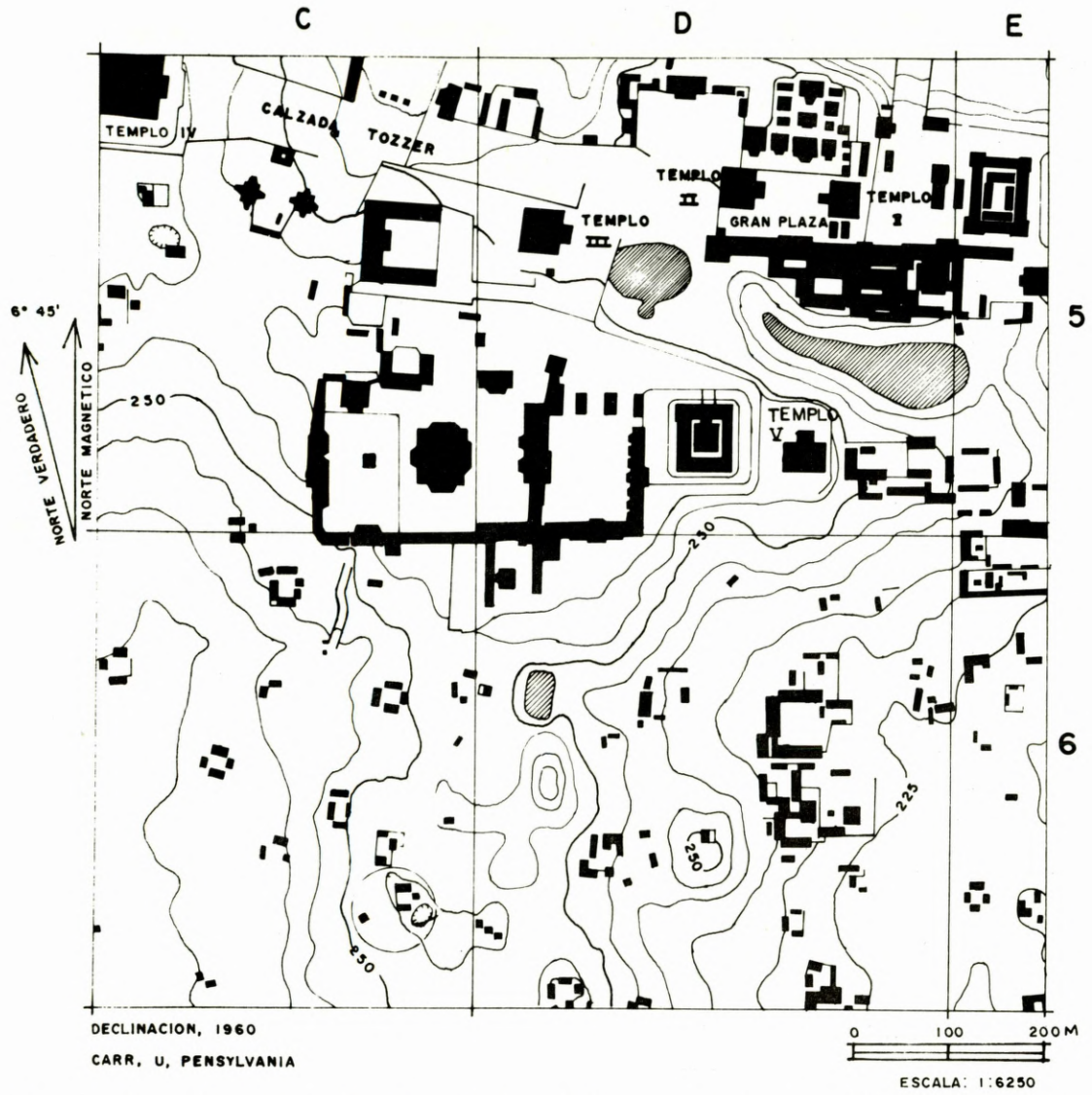


Fig. 1. Planta de localización, Mundo Perdido y grupo 6C-XVI, Tikal, Petén.

la fase Manik 3-A de Tikal. Ball sugiere que la excepción significativa es la poca importancia local del tipo Aguila Rojo-naranja (1977:130, 132, 156).

El complejo Nabá de Piedras Negras incluye materiales de los grupos cerámicos Aguila Rojo-naranja, Balanza Negro, y el tipo Dos Arroyos Naranja Polícromo, más bien asociados a trípodes que a vasijas de base anular. "El complejo Uitz o fase tardía de Nabá tiene una pestaña basal que se reduce solamente a un reborde. Son muy escasos los soportes rectangulares y almenados. En general, las diferencias entre Piedras Negras y el área central parecen situarse en un nivel de variedad" (Willey, Culbert, y Adams 1967:298-299).

En El Mirador, Petén, la muestra es reducida y la mayoría de los tiestos identificados son de las fases Tzakol 1 o 2. No hay vasijas al fresco y los soportes rectangulares son escasos. La forma más usual presenta ángulo-Z con pestaña basal (Hoopes 1984:94).

En Edzná, Campeche, el Clásico Temprano está representado por el complejo Poderes, no subdividido; esta ocupación no es muy generalizada al sitio y hay poca arquitectura que pueda asociarse a ella, a pesar de que se localizó escultura del Clásico Temprano. Las similitudes entre contenidos tipológicos con Tzakol incluyen tipos del grupo cerámico Aguila, los polícromos Dos Arroyos Naranja y Caldero Ante, así como al utilitario Triunfo Estriado. Sin embargo, hay diferencias a nivel contenido que se acentúan por la ausencia del grupo cerámico Balanza, por lo que se menciona al complejo Poderes como un miembro "atenuado" de la esfera Tzakol (Forsyth 1983:207, 216, 224).

En el caso de Barton Ramie, el complejo Hermitage no ha sido subdividido; es fuerte la relación con Petén, prevalenciendo los "wares" Petén Lustroso. Los tipos policromados mayoritarios son Dos Arroyos Naranja y Actuncán Naranja, con diseños geométricos, que pueden corresponder a Tzakol 1, continuando en este complejo el tipo Aguacate Naranja, en su variedad Privación. Es notable la tradición de cerámicas de engobe rojo, a diferencia de las de engobe naranja que predominan en Petén. Los modos de carácter foráneo no son usuales pero se presentan en contextos habitacionales mediante soportes rectangulares del grupo Balanza (Willey 1965:566).

En el norte de Belice este horizonte se conoce como complejo Nuevo Tzakol y es de los más pobremente representados. El sentido de continuidad es muy fuerte a nivel tipológico y de formas, mediante la pestaña basal supliendo a las labiales o laterales, siendo más importante en este momento que el propio ángulo-Z, que procede del complejo Freshwater. Hay algunos soportes rectangulares fuera de contextos estratigráficos importantes (Pring 1976:41-48).

Culbert, en su estudio de los materiales de Tikal, hace notar que la estabilidad de los tipos cerámicos a través del período Clásico Temprano es asombrosa. La subdivisión cronológica del complejo Manik de Tikal resulta confusa por no poder relacionar la secuencia arquitectónica con muestras temporalmente diferentes. Aclara que fueron escasas las muestras grandes que permitieran análisis cuantitativos (Culbert 1979:M-1).

De esto surge la necesidad de analizar muestras de carácter sellado que ayuden a aclarar la presencia, frecuencia, y evolución de las formas y tipos cerámicos. En los recientes trabajos del Proyecto Nacional Tikal se

cuenta con muestras que corresponden a las diversas fases que componen este complejo. Para estos efectos se cuenta con dos series de hallazgos que proceden de las exploraciones llevadas a cabo en Mundo Perdido durante las temporadas 1980-1982 y del grupo 6C-XVI, situado al sur de dicho conjunto monumental, durante las temporadas 1982-1984 (Fig. 2).

Las muestras selladas de Mundo Perdido corresponden a una serie de escondites dedicatorios y túmbas de élite asociadas a los cambios arquitectónicos que se efectuaron en las diversas fases del Clásico Temprano en los edificios al este de Gran Pirámide o 5C-54; estos conforman un complejo de conmemoración astrónomica que venía funcionando desde la época Preclásica (Fig. 3). Por otra parte, las muestras procedentes del grupo 6C-XVI consisten en dos depósitos problemáticos sellados por superposición arquitectónica representativa de la fase media del complejo Manik.

La asociación directa de las muestras con la evolución arquitectónica de estos conjuntos permite relacionar el contenido cerámico de los hallazgos con las fases cerámicas del complejo Manik. Esta circunstancia proporciona una buena posibilidad de replantear los diagnósticos y la cronología específica de la fase Manik 2 y su relación con la secuencia dinástica formulada para Tikal en trabajos anteriores.

En el presente análisis se intenta una revisión tanto de la división cronológica como de los diagnósticos y contenidos cerámicos arriba mencionados para las fases 1 y 3 del horizonte Tzakol. Para el planteamiento de la fase Manik 2 ha sido necesario retraer aspectos de la fase precedente, así como de la fase Manik 3, dejando el análisis específico de esta última para otra investigación por incluir características culturales de posible tradición foránea que necesitan de elementos adicionales para su evaluación.

SUBCOMPLEJOS DE ASOCIACION RITUAL

Para presentar los resultados del análisis cerámico se utiliza el sistema tipo-variedad que trata la clasificación de materiales cerámicos en base a conjuntos de rasgos o atributos observables. Estos conjuntos, al alcanzar un nivel de utilidad analítica, logran una significación temporal, espacial, y cultural. Debe insistirse en que tipos y variedades son conglomerados artificiales y arbitrarios, tomándose más bien como armas de trabajo para lograr comparaciones concretas en el área Maya y no como realidades culturales.

Al situar las muestras cerámicas de Tikal en términos de contexto social, Culbert (1979:M-2) ha distribuido las

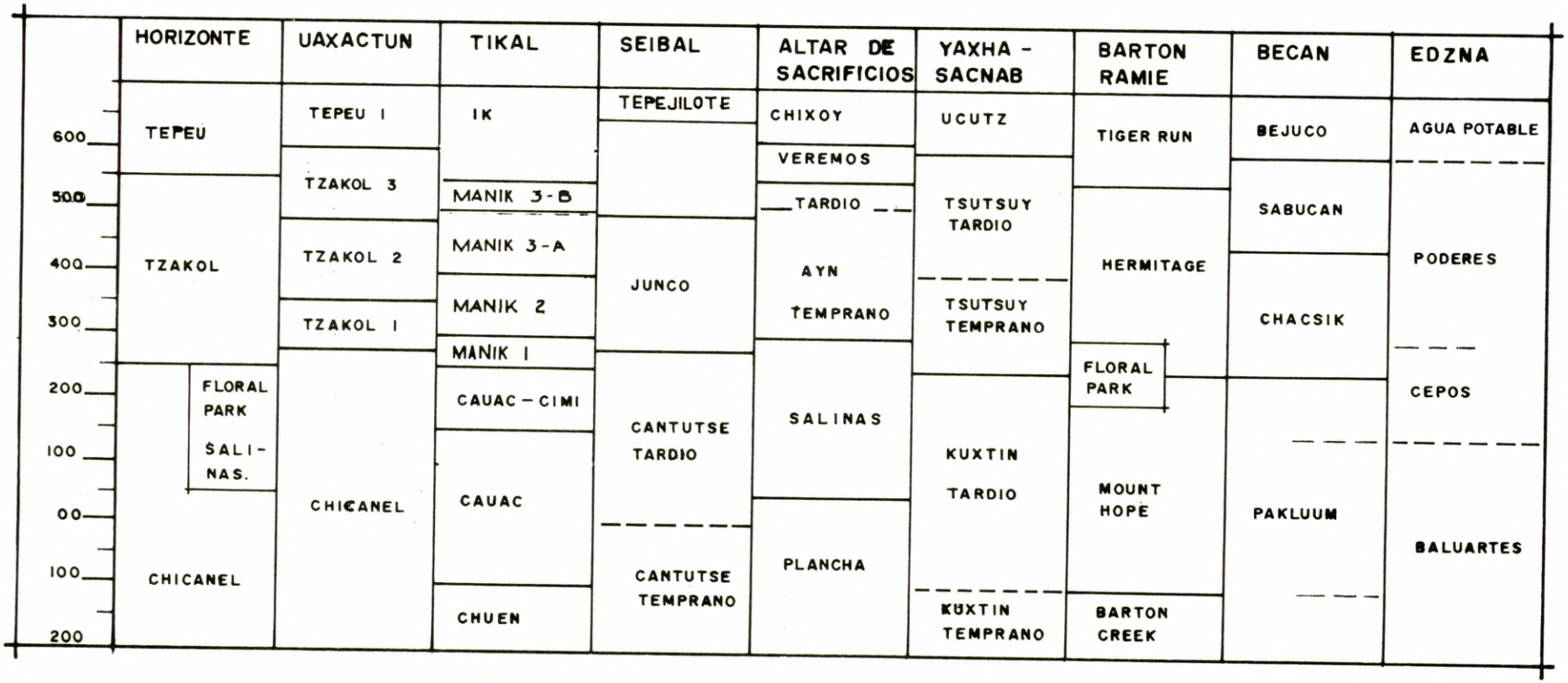
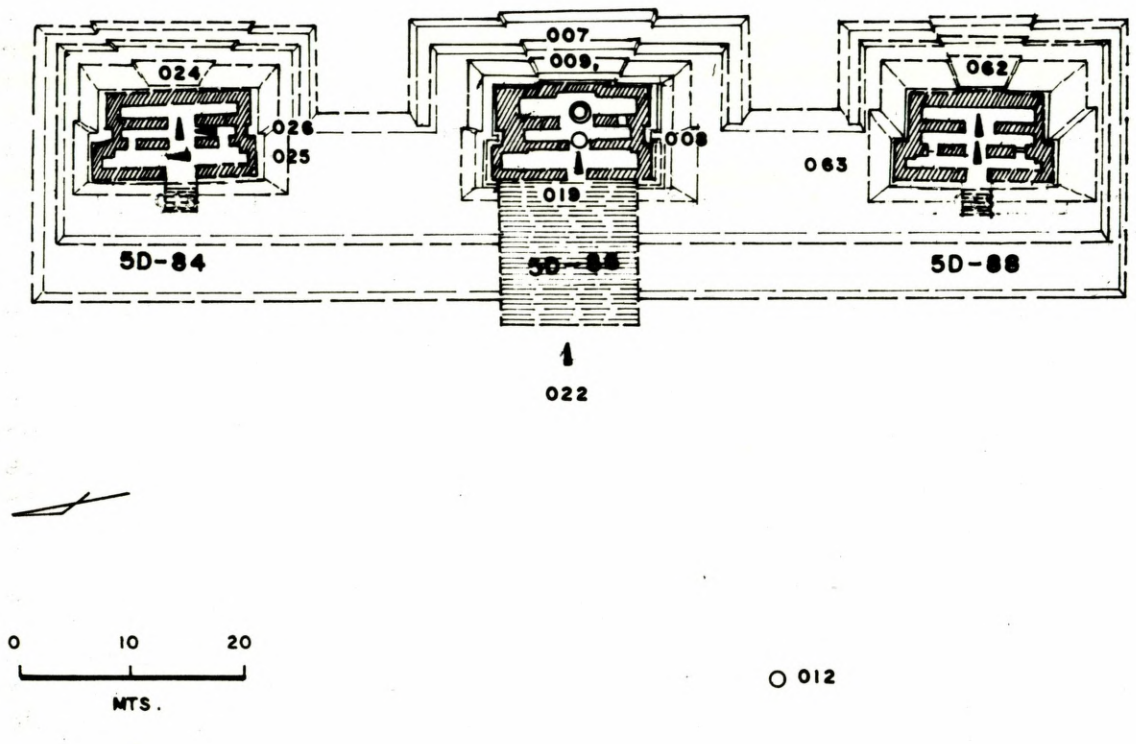


Fig. 2. Tabla cronológica de los complejos cerámicos de las tierras bajas del área Maya.



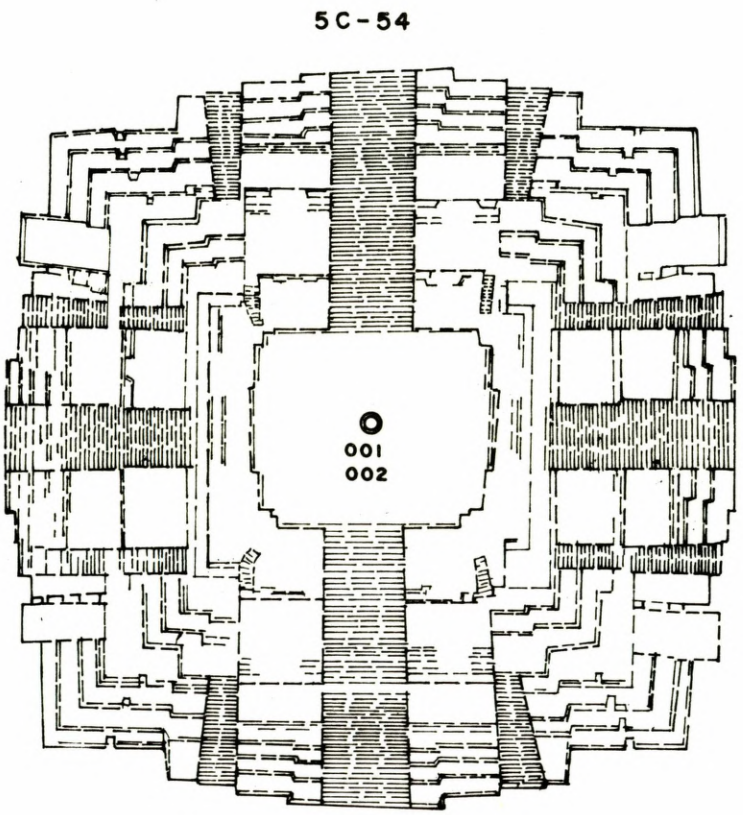


Fig. 3. Estructuras 5C-54 y 5D-84-88, Mundo Perdido, Tikal.

colecciones del complejo Manik en tres contextos principales: 1) dentro o cerca de un grupo arquitectónico mayor de naturaleza ceremonial, al cual pertenecen las colecciones de Mundo Perdido; 2) dentro de grupos arquitectónicos de tamaño medio que combinan funciones ceremoniales y residenciales, que es el contexto en donde se ubican las muestras procedentes del grupo 6C-XVI; y 3) dentro o cerca de grupos ceremoniales.

En el presente trabajo se utiliza una unidad analítica específica en los denominados subcomplejos, los cuales representan conjuntos cerámicos definidos en base a su asociación a una clase funcional particular, tal el caso de los subcomplejos funerario, de escondites, o de incensarios (Ball 1977:3). En esta categoría hemos incluido a los denominados depósitos problemáticos por las características de índole ritual que parecen asociarse a ellos.

Dentro de los subcomplejos funerario y de escondites queda enmarcada la muestra de materiales cerámicos procedentes de Mundo Perdido, Tikal, que se presenta en esta oportunidad. Un posible ejemplo de técnica asociada a un subcomplejo funerario específico es la aplicación de decoración secundaria sobre el tipo Balanza Negro, mediante una capa de estuco con diseños iconográficos pintados en diversos colores. Este es un rasgo que tipifica a la fase Manik 3-A, generalmente asociado a un ceremonialismo avanzado y a tumbas mayores.

Culbert documenta 24 entierros de Tikal que contienen material del complejo Manik y observa que las vasijas de enterramiento son un modelo distinto que lo representado en las muestras de tiestos (1979:M-85-91). Durante el Clásico Temprano y sobre todo en las fases media y tardía, los enterramientos muestran una marcada preferencia por las cerámicas policromadas y por las incisas y gubiadas, las cuales parecen tener una diferenciación frecuencial entre estas fases. Se considera que las segundas son más importantes en la fase tardía mientras los tipos policromados fueron más utilizados en la fase media, lo cual se refleja también en la fase temprana.

En los subcomplejos funerario y de escondites sobresale la baja frecuencia del tipo Triunfo Estriado, asociado más bien a vasijas domésticas y utilitarias, aunque en Uaxactún se conoce un ejemplar incluído en el entierro B-1 (R. Smith 1955: Fig. 12p). Problemática es la consideración del grupo cerámico Aguila, el cual algunos consideran no representado en estos subcomplejos específicos, aunque hayan sido localizados también en Uaxactún. El material procedente de Mundo Perdido incluye abundantes ejemplares de este grupo en dichos contextos, además de su abundancia en las colecciones de tiestos.

Algunas de las formas específicas más utilizadas en

enterramientos son los picheles y amplias fuentes con pestaña basal y tapaderas cóncavas. Se incluyen algunas vasijas efígie, generalmente representando animales. Además se consideran los cilíndros trípodes con o sin tapaderas cónicas, así como diversas formas especiales. Es evidente una mayor proporción de vasijas con soportes.

Algunas referencias posteriores que se relacionan con los enterramientos, escondites, y depósitos problemáticos localizados en las exploraciones de Mundo Perdido y del grupo 6C-XVI estan sustentadas en documentos del Proyecto Nacional Tikal. Estos incluyen la identificación tipológica y descripción de vasijas de Hermes (1984a, 1985), un análisis de materiales de dos hallazgos sellados de las exploraciones de campo sintetizadas en Laporte y Fialko (1985), la identificación del complejo de conmemoración astronómica en Mundo Perdido (Fialko 1985), y el reporte del análisis de restos óseos de enterramientos llevado a cabo por Salas y Pijoán (1982).

LA FASE MANIK 1

La Fase Manik 1 en Tikal

Cronológicamente, Manik 1 de Tikal equivale a Tzakol 1 de Uaxactún, al final de la fase Salinas de Altar de Sacrificios, al início de Junco de Seibal y de Hermitage en Barton Ramie, así como al Chacsik temprano de Becán. Considerando como arbitraria la fecha 250 DC, coinciden en cuanto a sus inícios. En el caso de Altar de Sacrificios y de Barton Ramie, el início del Clásico Temprano se modifica por la presencia del componente Protoclásico, conocido como fase Salinas en el primer sitio y Floral Park en el segundo. La ausencia del Protoclásico en otros sitios de tierra baja hace compleja su consideración (Pring 1977).

Manik 1 se ha fechado tradicionalmente entre 250-350 DC. Dentro de la secuencia dinástica de Tikal, la cual es sujeta a amplia discusión y revisión, esta etapa corresponde al reinado de gobernantes del linaje Garra de Jaguar, incluyendo personajes aun no identificados plenamente. En esta discusión situamos la fase Manik 1 en un período comprendido entre 250 y 300 DC, planteado por su poca definición cerámica. La fecha terminal podría corresponder a la entronización del señor de la estela 29 o primer gobernante conocido del linaje Garra de Jaguar (Coggins 1975; Jones y Satterthwaite 1983). Esta reducción cronológica de la fase Manik 1 se apoya en análisis cerámicos y arquitectónicos específicos de la fase Manik 2, así como en datos aportados por la estela 39 de Tikal, localizada en las exploraciones de Mundo Perdido y fechada para 375 DC (Ayala 1985), finales de la fase media, momento en que se observan los primeros contactos con ideas de carácter foráneo.

Se observa una regionalización durante los inícios del Clásico Temprano, a pesar de la estabilidad aparente en los grupos cerámicos. Uaxactún y Tikal incluyen en su inventario cerámico fuentes de pestaña basal desde entonces, mientras que Altar de Sacrificios, durante Ayn temprano o Tzakol 1-2, se tipifica por cuencos de ángulo-Z, forma más arcaizante. Es decir que desde los inícios del horizonte Tzakol las formas más populares son las fuentes de pestaña basal y base anular, así como algunos cuencos de ángulo-Z, entre otros.

En Tikal sabemos que Manik 1 procede de la tradición cerámica del complejo Cauac del Preclásico Superior, adicionando algunos modos del Protoclásico o componente Cimí, incluyendo técnicas decorativas policromadas, soportes mamiformes, etc.

En relación a las formas cerámicas, Culbert considera que la fase temprana es bastante distinta de las otras, conservando aun formas de etapas anteriores. "La fase temprana se caracteriza por altas frecuencias de dos elementos, las vasijas con ángulo-Z agudo y los bordes directos. La frecuencia del ángulo-Z agudo es la característica más notable de la fase temprana, la cual alcanza entre 12 y 30 porciento de la muestra" (1979:M-73). Las tapaderas cóncavas posiblemente sean ya de finales de Manik 1. No hay cilindros trípodes y se documentan pocos cuencos hemisféricos. A esto se suma la presencia de bases anulares y pedestal.

La falta de definición de la fase temprana o Tzakol 1, responde a que ha sido integrada en base al surgimiento de un novedoso inventario cerámico representado basicamente por el grupo cerámico Aguila, tanto en sus tipos monócromos como bícromos y polícromos, con el predominio de engobe de color rojo-naranja, contrastando con los engobes de color rojo o grupo cerámico Sierra que definen al Preclásico Superior. Desde la etapa anterior ya existían las tonalidades rojo-naranja, pero su frecuencia es sumamente baja.

Otros grupos cerámicos, tanto utilitarios (Triunfo) como engobados en negro y cafe (Balanza y Pucté), no proporcionan cambios mayores. Es más bien el surgimiento de nuevas formas y la presencia del engobe coloidal que da por resultado un aspecto superficial lustroso (glossy), a diferencia del tacto jabonoso o ceroso (waxy) de época anterior, el que marcará esta nueva condición cerámica y cronológica. El engobe coloidal se forma por el recubrimiento del ejemplar con un engobe crema a rosáceo, aplicando luego un engobe naranja (Forsyth 1983:187).

Los Hallazgos Manik 1 en Mundo Perdido

Investigaciones anteriores en Tikal han proporcionado

materiales de la fase Manik 1 en dos contextos principales. Por un lado, Culbert reporta una concentración cerámica (Loc. 5) ubicada cerca de la estructura 5D-14 de la Plaza Oeste, con deposición estratigráfica que permite observar los cambios entre fases Manik 1 y 2; otra muestra indicada por Culbert (Loc. 7) procede de una excavación en la estructura 4H-4, es una muestra pequeña sin estratigrafía, donde no se refieren otras fases cerámicas (Culbert 1979:M-8-9).

Asimismo, Coggins hace referencia al escondite 144 colocado en eje bajo la estructura 5D-22-2, conteniendo dos platos con paredes recto-divergentes colocados borde a borde; el plato que sirvió de tapadera tiene pintada en la base una cabeza llevando como tocado un jaguar (Coggins 1975:121 y Fig. 38a); este escondite fue intruído dentro del depósito problemático 87 que contuvo material Cimí. Se menciona además tiestos policromados correspondientes a fuentes de pestaña basal y algunas tapaderas cóncavas provenientes de una concentración bajo la estructura 5D-50 de la Acrópolis Central (Coggins 1975:103-104).

En Mundo Perdido la variedad tipológica de la muestra Manik 1 es relativamente reducida; se cuenta con cuatro escondites (PNT-007, 009, 012, y 014) y con el entierro PNT-022 (que incluye a los entierros PNT-017, 018, y 022), procedentes del edificio 5D-86 y de la denominada Plaza Alta, frente a esta estructura (Fig. 3). No hubo depósitos problemáticos, basureros, o cualquier tipo de depósitos sellados o sin mezcla asignados a esta fase. Antecediendo a estos hallazgos se encontró una muestra de época Protoclásica en el entierro PNT-021, una tumba de sección pentagonal asimismo asociada a 5D-86.

Entierro PNT-022 o Multiple. Aparentemente los acontecimientos rituales de mayor envergadura en el Preclásico y Clásico Temprano en Mundo Perdido, se llevaron a cabo en relación al lado este del complejo arquitectónico, normado por la estructura 5C-54 o Gran Pirámide, que conjuntamente con las estructuras 5D-84, 86, y 88, integra un complejo de conmemoración astronómica.

En relación al eje de 5D-86-5 (Manik 1) y situado en la Plaza Alta, se localizó el entierro PNT-022, múltiple o simultáneo, consistente de 16 o 17 individuos sacrificados, que incluyó adultos masculinos, femeninos, e infantes.

La ofrenda consistió en dos ollas de tipo Quintal Sin Engobe (PNTA-016/017), una de ellas acuñada por piedras calizas amorfas, un vaso de tipo Dos Hermanos Rojo (PNTA-018, Fig. 4), fragmentos de nódulos y lascas de pedernal, un fragmento de piedra de moler en cuarzo (PNTL-076/78), fragmentos de varias hachuelas pulidas en piedra verde (PNTJ-012), pendientes elaborados sobre concha (PNTC-056/057), y cuatro discos de cerámica sin perforaciones,

que son fragmentos de vasijas reusadas de tipos Preclásicos Sierra Rojo y Polvero Negro.

Posteriormente a la deposición de entierro PNT-022 se construyó una plataforma cuadrangular en la base de la escalinata de la estructura 5D-86-5. Si en un momento dado la estela 39 fue colocada en la base de la escalinata de 5D-86, no podría tener una relación directa con la deposición del entierro PNT-022 debido a la diferencia de las fechas consideradas.

Escondite PNT-007 (5D-86-5). Situado en el relleno bajo la plataforma superior del edificio 5D-86-5. Consistió en doce platos de tipo Aguila Rojo-naranja (PNTA-021/029; PNTA-133/135; Fig. 4); ocho de ellos se encuentra colocados en pares borde a borde (PNTA-021/022; PNTA-023/024; PNTA-025/026; PNTA-027/028); estos mismos contuvieron en su interior conchas y caracoles marinos (PNTC-025/052), huesos de animal, cuentas de hueso, concha, y piedra verde (PNTJ-032/036), así como también restos de cinabrio (PNTV-020). Las piezas que sirvieron de tapadera tienen en la base decoración con glifos pintados o delineados en negro, como es el caso de PNTA-022, 024, 026, y 134 (Fig. 5). Se incluyen dos discos de cerámica sin perforación.

Escondite PNT-009 (5D-86-5). Situado bajo el escondite PNT-007, dentro del relleno del edificio 5D-86-5; consistió en dos pares de platos colocados borde a borde, de tipo Aguila Rojo-naranja (PNTA-032/035; Fig. 4), depositados sobre una acumulación de barro quemado, a los cuales se asocian 24 caracoles (PNTC-034).

Escondite PNT-012. Localizado en el área denominada Plaza Alta, al este de 5C-54, frente a los edificios 5D-87 y 88. Consistió en cinco ollas de tipo utilitario o Quintal Sin Engobe (PNTA-094/98; Fig. 4), muy fragmentadas, encontradas a 1.10 m de la superficie, apoyadas entre piedras pequeñas. Parecen haber sido intruídas en un contexto Tzec rompiendo un piso a 0.30 m de la superficie.

Escondite PNT-014. Situado en la Plaza Alta, al norte de 5C-54, junto a la esquina suroeste de 5D-77; como en el caso del escondite PNT-012, tambien tiene características intrusivas al haberse perforado dos niveles de pisos Preclásicos para colocarle a 1.32 m de la superficie. El hallazgo consistió en un plato rojo con pestaña basal (PNTA-099).

Manik 1 Visto Desde los Hallazgos de Mundo Perdido

Los materiales arriba descritos para la fase Manik 1 se incluyen dentro de los subcomplejos funerario y de escondites de Mundo Perdido, un conjunto arquitectónico de función especializada en Tikal, por lo tanto representativo

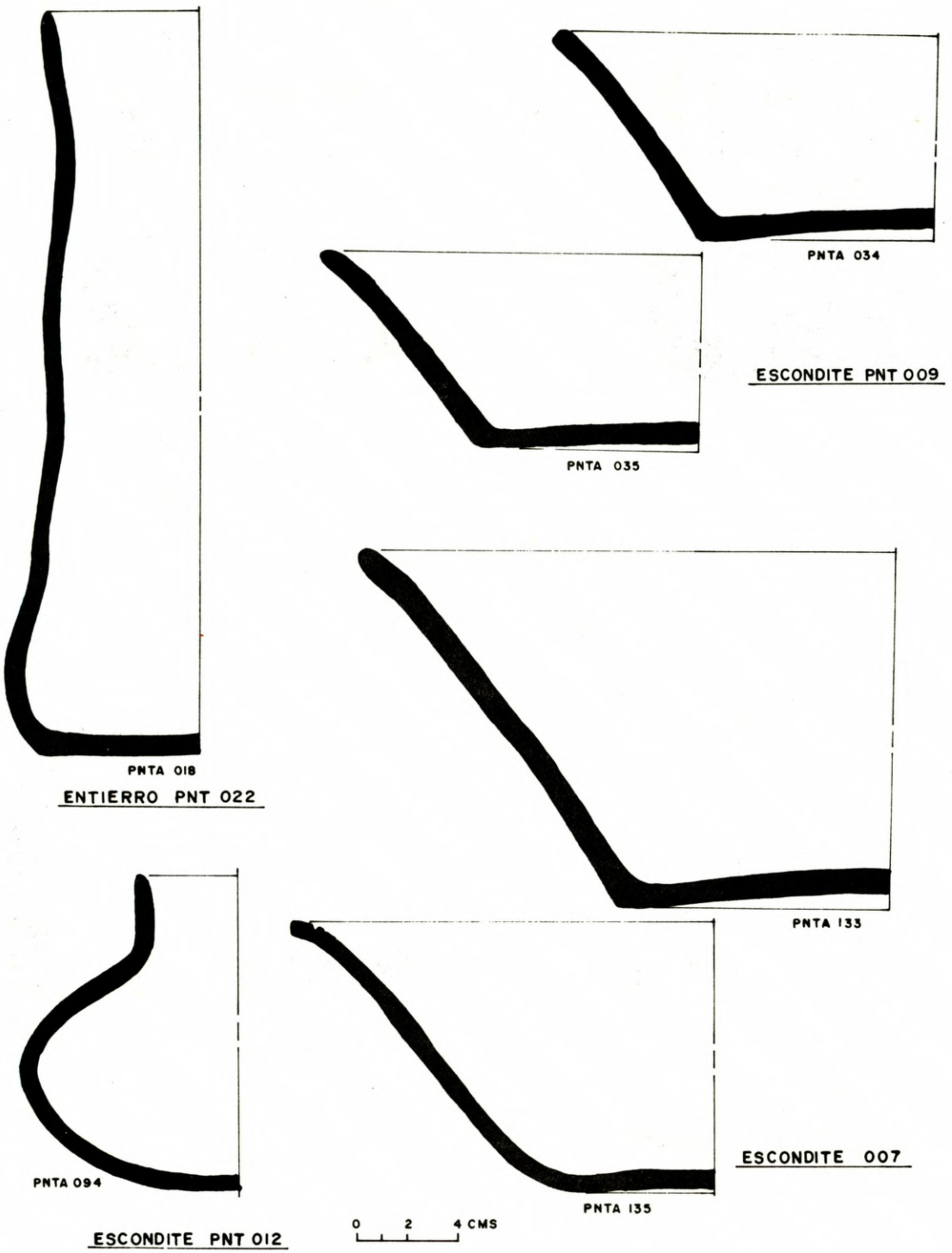
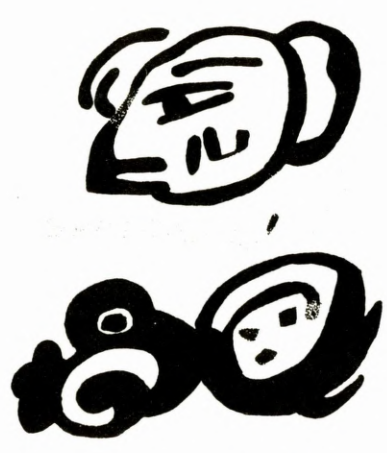
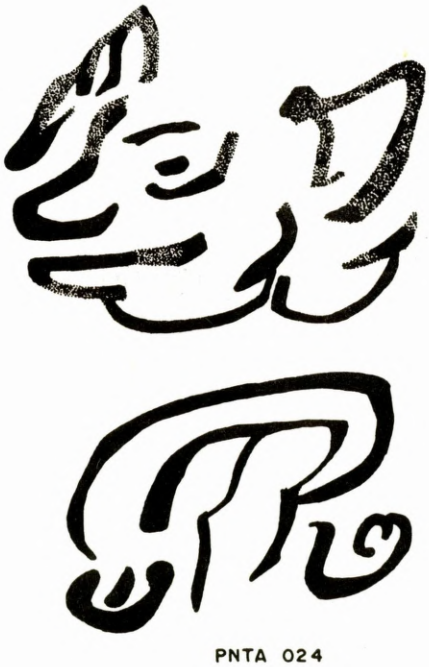


Fig. 4. Cerámica de escondites.



PNTA 022

PNTA 026



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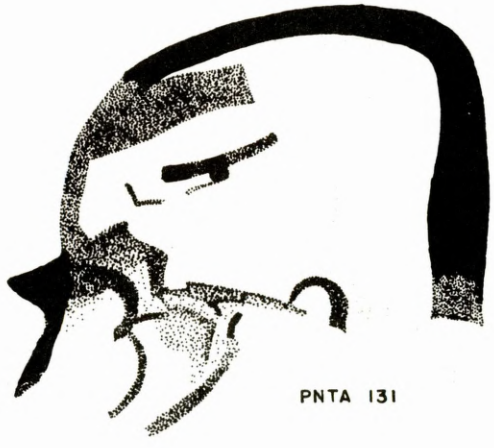

PNTA 131

ESCONDITE 07

0 1 2 CMS

Fig. 5. Glifos pintados en las tapaderas de platos de escondite 07.

para el sitio, situandose en contexto social de un grupo arquitectónico mayor de naturaleza ceremonial. Este conjunto de hallazgos tienen una íntima relación al estar asociados con ejes normados por la posición de la pirámide 5C-54 y determinados eventos específicos, tales como ofrendas dedicatorias o terminales a las remodelaciones de edificios o de carácter ritual como el caso del entierro PNT-022; los escondites localizados en diversos sectores de la Plaza Alta pudieran tener una interrelación con lo anterior, por el hecho de incluir en sus materiales, rasgos de colocación y contenido compartidos con los hallazgos mencionados.

La variedad tipológica de los hallazgos Manik 1 es bastante restringida, pero llama la atención que se trata de ejemplares no considerados en otros estudios que hacen referencia a estos subcomplejos, como lo son los tipos Aguila Rojo-naranja, Quintal Sin Engobe, y el discutido tipo Dos Hermanos Rojo. En este caso no se presentan los tipos mas usuales a nivel ritual, como podrian serlo los tipos policromados y las formas de vasijas con ángulo-Z.

El tipo Quintal Sin Engobe corresponde al "ware" Uaxactún Sin Engobe, categoría mayoritaria en los materiales domésticos de tierra baja. Mediante las colecciones de Tikal, Culbert indica que este tipo puede relacionarse más en cuanto a pasta a los tipos engobados (1979:M-23-24). Los atributos mas relevantes de Quintal Sin Engobe son el exterior alisado y su predominio en formas de ollas, con borde engrosado y labio acanalado; los ejemplares encontrados en Mundo Perdido son de cuello corto y mediano. El hecho de que puede asociarse su pasta más con la de tipos engobados, así como su aparente restricción en comparación al Triunfo Estriado, es tipo mayoritario en las cerámicas utilitarias, hace posible que este sea un tipo utilizado no solamente en contextos domésticos, sino en los subcomplejos funerario y de escondites.

El grupo cerámico Aguila, con atributos de engobe color rojo a naranja y acabado lustroso, es un tipo mayoritario, sobremanera su variedad Aguila. Durante Manik 1, en el subcomplejo de escondites en Mundo Perdido, es notable el amplio uso del tipo Aguila Rojo-naranja, circunscrito exclusivamente a platos de base plana y paredes recto-divergentes, colocados borde a borde, sin manifestarse el uso de otras formas que incluyan pestaña basal y ángulo-Z; posiblemente esto se deba a que la tradición de escondites de platos en pareja, con el superior invertido a forma de tapadera, se inicia en época Preclásica, continuando hacia el Clásico Temprano. Esta tradición prosigue aun con el surgimiento de la tapadera cóncava en la fase Manik 2, que se asocia a la función que tiene el plato invertido. Tambien para el Clásico Tardío prosigue una variante del uso de tapaderas cóncavas en escondites, según lo refiere Coe para Piedras Negras (1959:

Figs. 61, 62).

Un aspecto que da relevancia ritual al uso de los platos Aguila Rojo-naranja dentro del contexto de escondites Manik 1 es la aplicación de diseños glíficos delineados en negro sobre la base del plato superior, lo cual realiza la función específica de tapadera de dicho plato (Fig. 5). La lectura de estos jeroglíficos es parte de un análisis de las inscripciones del Clásico Temprano recopiladas en vasijas y monumentos de Mundo Perdido y zonas cercanas.

Dentro de estos platos fueron encontrados generalmente conchas, caracoles, espinas de raya, cuentas de hueso, concha, y piedra verde, así como diversos pigmentos y material especular. Algunos objetos adicionales acompañan a los anteriores, como son discos cerámicos o figurillas en concha. Es notoria la ausencia de instrumentos en piedra, sean de pedernal o de obsidiana.

Incluído en el material del entierro PNT-022 se encuentra un vaso de forma posiblemente fitomorfa adscrito al discutido tipo Dos Hermanos Rojo (Fig. 4). Este tipo fue establecido en Uaxactún (R. Smith y Gifford 1966:171), como perteneciente al grupo cerámico Dos Hermanos del "ware" Petén Lustroso. Culbert (1979:M-34) rechaza este grupo al considerar que el color rojo entra en el rango del tipo Aguila Rojo-naranja. Este tipo fue empleado en otras clasificaciones cerámicas del centro del área Maya, en especial en Barton Ramie, donde Gifford (1976:160-161) considera dos tipos, el Dos Hermanos Rojo y su tipo paralelo Mahogany Creek Inciso. Se menciona en Seibal y en Altar de Sacrificios la presencia de un tipo similar en Caribal Rojo, afiliandose al tipo Macal Rojo-naranja de Barton Ramie (Sabloff 1975:105; Adams 1971:21), lo que apoya su inclusión dentro del tipo Aguila Rojo-naranja, por lo cual Dos Hermanos no se documenta en dichos sitios.

En los estudios de la cerámica de Mundo Perdido, se ha retomado al tipo Dos Hermanos para este único ejemplar debido a que le caracteriza un engobe lustroso cuyo color rojo es distintivo por presentar múltiples inclusiones de minúsculos puntos negros, que no se encuentran en los tipos de grupo Aguila y que no es posible justificar solamente por efectos de cocción. La presencia de esta vasija en contextos Manik 1, conjuntamente con discos que reutilizan bases de vasijas Preclásicas en tipos Sierra y Polvero, puede indicar que se trata de un caso transicional motivado por el cambio que se sucede en el uso de engobes de color naranja desplazando al color rojo; por lo tanto, solamente podría localizarse al tipo Dos Hermanos en contextos iniciales del Clásico Temprano.

LA FASE MANIK 2

La Fase Manik 2 en Tikal

La etapa media del horizonte Tzakol, equivalente a las fases Manik 2 y 3-A de Tikal, abarca tradicionalmente de los años 350-450 DC. A este marco de referencia se agruparon las secuencias de Altar de Sacrificios y Becán, con sus correspondientes fases Ayn tardío y Chacsik tardío.

Por análisis cerámicos recientes, es notable que el marco cronológico y de contenido especificado para Tzakol 2, resulta poco consistente para la correlación cerámica y cultural entre las fases, debido a que se han incluído elementos tanto de la fase media como de la tardía. Es decir que la parte temprana de Tzakol 2 corresponde a Manik 2 de Tikal y la parte tardía de Tzakol 2 equivale a Manik 3-A de Tikal.

Al utilizar la fecha terminal de 450 DC para Manik 2 se crea un problema de contenido cerámico en el subcomplejo funerario, pues las tumbas de cada gobernante, según fueron identificadas por Coggins (1975), es decir el entierro 10 para Señor Danto (Curl Nose) y el entierro 48 para Cielo Tormentoso (Stormy Sky), contienen vasijas que se incluyen en la tradición cerámica Manik 3-A, por incluír cilindros y materiales estucados, entre otros. Caso aun más crítico es el entierro 22 y su supuesta asociación al gobernante Garra de Jaguar.

En el caso del señor de la estela 39, fechada para 375 DC, esta situación difiere, pues de ser su tumba el entierro PNT-019, localizado en el edificio 5D-86-7, este coincidiría plenamente con la definición de las cerámicas de la fase Manik 2, razón por la cual optamos por situar la fase Manik 2 entre los años 300 y 400 DC. Este rango cronológico propuesto para la fase Manik 2, se asocia a los gobernantes del linaje Garra de Jaguar, comenzando la fase con el señor de la estela 29, varios gobernantes no identificados aun, el señor de la estela 39 de Mundo Perdido, hasta la parte inicial del gobierno de Señor Danto.

En apoyo a la reducción cronológica de la fase Manik 2 al siglo IV, fueron los edificios del complejo de conmemoración astronómica en Mundo Perdido los que proporcionaron los elementos arquitectónicos más precisos. Durante este siglo se adicionan los cuerpos 9 y 10 a 5C-54 o Gran Pirámide y se construyen dos estadíos arquitectónicos evidentes en la estructura 5D-86, sin embargo 5D-84 y 5D-88 no mostraron mas que un estadío. Los cambios significaron una última superposición constructiva que cubrió a los edificios desarrollados durante Manik 1; se construyen templos superiores y nuevos basamentos, que equivalen a los estadíos 5D-86-6 y 7, 5D-84-6, y 5D-88-6.

Es entonces que se depositan una serie de tumbas mayores en estos tres edificios (Fig. 3). Al término de la época Manik 2 se recubrieron parcialmente sectores del basamento de 5D-84-6 mediante la aplicación del modo arquitectónico talúd-tablero, mostrando lo que puede considerarse como un rasgo Manik 3-A en estos edificios. Para entónces son otros sectores de Mundo Perdido los que se desarrollaron espacial y arquitectónicamente, marcandose así una reorientación de la función ritual de la pirámide hacia el lado oeste de Mundo Perdido.

De forma similar a la época Tzakol 1, la fase media también está poco definida a nivel cerámico, considerandose necesaria una reevaluación para documentar nuevos elementos que amplíen los mecanismos de diferenciación específicos de esta fase, debido a los cambios importantes que surgieron en la fase Manik 3-A. Culbert, en relación a su muestra de Tikal, indica que "la fase media del complejo Manik es intermedia, cualitativa y cuantitativamente entre las fases temprana y tardía" (1979:M-74).

Las sepulturas de la fase media utilizan en abundancia las vasijas policromadas, en forma de fuentes con pestaña basal y ángulo-Z redondeado, cubiertas por tapaderas cóncavas, con asas decorativas que pueden adoptar formas geométricas, zoomorfas, o antropomorfas; también se localizan platos de pestaña basal con vertedera, picheles, algunas vasijas efígie y vasos tetrápodes. Los soportes también suelen ser zoomorfos o geométricos.

Generalmente se ha adicionado a los cilindros trípodes y sus tapaderas cónicas dentro del repertorio de formas de la fase media del horizonte Tzakol; la presencia de cílindros para este momento es debida a que el período se prolonga hasta 450 DC. Al restringirlo a 400 DC como máximo, esta forma se torna diagnóstica de la fase Manik 3-A.

En la fase Manik 2 se indican unos pocos cambios de frecuencia que quizá tengan alguna significación temporal. Los tipos mas frecuentes para esta fase son, además de los monócromos del grupo cerámico Aguila, el bícromo San Blas Rojo-sobre-naranja, y el polícromo Dos Arroyos Naranja; los monócromos del grupo cerámico Balanza y las versiones tempranas de Lucha Inciso; los polícromos Caldero Ante y Yaloche Crema de grupo cerámico no especificado.

Los Hallazgos Manik 2 en Mundo Perdido

Dentro de la tradición del horizonte Tzakol, han sido pocos los hallazgos recuperados para las fases temprana y media en diversos sitios explorados en las tierras bajas. Thompson (1939: Fig. 41) reportó en San José, Belice, un escondite en el eje de la estructura D-1 consistente en 13 platos de "ware" rojo, dos de ellos borde a borde y los demás invertidos sobre el superior, de fase San Jose II.

Por otra parte, en Piedras Negras hubo abundantes escondites pero ninguno podría asignarse antes de la fase Tzakol 3 (Coe 1959).

Altar de Sacrificios proporcionó escondites, integrados a la fase Salinas por llegar esta hasta el 450 DC; los escondites 8-30 consistieron en 46 platos, varios de ellos borde a borde, situados en el eje y relleno del edificio B-I, siendo platos de base plana y paredes recto-divergentes, de tipo Aguila Rojo-naranja y de un tipo no designado; no contuvieron nada en el interior. También hubo entierros Clásicos Tempranos (A.L. Smith 1972:237).

En el Proyecto Tikal de la Universidad de Pennsylvania, las muestras Manik 2 referidas por Culbert son las localidades 3-6, 13, 15-16, 19-20, y 23, procedentes del epicentro y de zonas de habitación de Tikal. Las muestras por lo general fueron pequeñas sin mayor relación estratigráfica recopiladas en gran parte de rellenos estructurales, pozos estratigráficos, y rellenos de chultúnes (Culbert 1979:M-7-15).

Además de las muestras indicadas, el único ejemplo asociable al subcomplejo funerario de Manik 2 es el entierro 22, de contexto elitista, localizado bajo la estructura 5D-26 de la Acrópolis del Norte. En base a su contenido cerámico, Coggins (1975:123-137) le asignó una fecha para finales de la fase Manik 2 o inícios de 3-A, debido a la presencia de dos cilindros trípodes, uno de ellos estucado y de tapadera cónica, varias fuentes policromadas de pestaña basal con tapaderas cóncavas decoradas mediante figuras zoomorfas, una vasija efígie que representa un mono, y un pichel con tapadera policromada. Otros entierros que comparativamente parecen corresponder a la fase media del horizonte Tzakol son los entierros B-2 de Uaxactún y 12 de Altar de Sacrificios (R. Smith 1955; A.L. Smith 1972:245).

En el presente trabajo, adscritos a contexto ritual, se consideran diversos hallazgos en Mundo Perdido que complementan el análisis cronológico y de contenido de la fase Manik 2, tal es el caso de tumbas de élite (entierros PNT-019, 024/26, 062/063); se incluyen además algunos escondites dedicatorios (escondites PNT-001/002, 008). Con el fin de apoyar esta secuencia se incluyen dos depósitos problemáticos procedentes de las exploraciones del grupo 6C-XVI de Tikal (PNT-019 y PNT-031).

Entierro PNT-019 (5D-86). Localizado en eje sobre la plataforma superior de 5D-86-6, primero de los estadíos constructivos de la fase Manik 2, recubierto por la construcción del templo de la última etapa. Corresponde a un individuo masculino, de 36-55 años, en posición decúbito dorsal extendido. Fue colocado en una tumba orientada este-oeste, de planta rectangular, cuyas dimensiones son

2.85 m de largo y 1.12 m de ancho; la altura del recinto es de 1.60 m. Cubierta por seis lajas calizas alineadas sin conformar bóveda, muros y techo fueron totalmente pintados en una tonalidad rojo oscuro; el piso contuvo gran cantidad de cinabrio y otras partículas especulares, lo cual incidió en la avanzada destrucción de restos óseos y conchas.

La ofrenda incluyó 13 vasijas (PNTA-036/047, Fig. 13 y 14); collares, máscara, orejeras, pectorales, y plaquetas son de jade (PNTJ-015/031; 041/043; 133), pendientes y collares elaborados en concha, cuatro conchas spondylus (PNTC-059/083), pendiente en diente (PNTO-020), fragmentos de un posible mosaico en pizarra (PNTL-014/015; 071/073), cinco esculturas antropomorfas de estuco que pudieron ser soportes y asa de la treceava vasija, la cual pudo ser de material perecedero. Fueron encontrados dentro de una vasija fragmentos de un cúbito y radio derechos de un sujeto femenino.

Entierro PNT-024 (5D-84). Localizado en eje sobre la plataforma superior de 5D-84-5 (Manik 1), recubierto por la construcción del templo 5D-84-6. Corresponde a un individuo femenino de 36-55 años, en posición decúbito dorsal extendido. Fué colocado en una tumba orientada este-oeste, cuyas dimensiones son 2.43 m de largo y 0.75 m de ancho, con 0.80 m de altura. El recinto fue cubierto por seis lajas alineadas sin formar bóveda, con indicios de haber sido recubierta con pintura rojo oscuro, más evidente en las lajas del techo.

La ofrenda incluyó ocho vasijas (PNTA-073/080, Fig. 6 y 7), collar y orejeras de jade (PNTJ-047/049), collar y tres conchas spondylus (PNTC-096/100). Muestra restos de cinabrio.

Entierro PNT-025 (5D-84). Localizado en eje sobre la plataforma superior de la estructura 5D-84-5 (Manik 1), colindante con el entierro PNT-024. Corresponde a un individuo masculino, 21-35 años, en posición decúbito dorsal. Fué colocado en una tumba orientada norte-sur, cuyas dimensiones son 2.69 m de largo y 0.75 m de ancho, con 0.90 m de altura; fué cubierto por siete lajas alineadas. El interior se encontró pintado de color rojo oscuro.

La ofrenda incluye seis vasijas (PNTA-081/086, Fig. 8 y 12), collar de cuentas de hueso, figurita de hueso, pendientes elaborados sobre concha, tres conchas spondylus, y espina de raya (PNTC-090/095), un pectoral de jade (PNTJ-050), fragmentos de pirita; con abundante cinabrio.

Entierro PNT-026 (5D-84). Localizado en el recinto sur de la Camara 2, bajo el piso del primer estadío de esta cámara (270.84 m SNM); es un entierro directo y primario colocado dentro de un relleno poco consistente; no se le

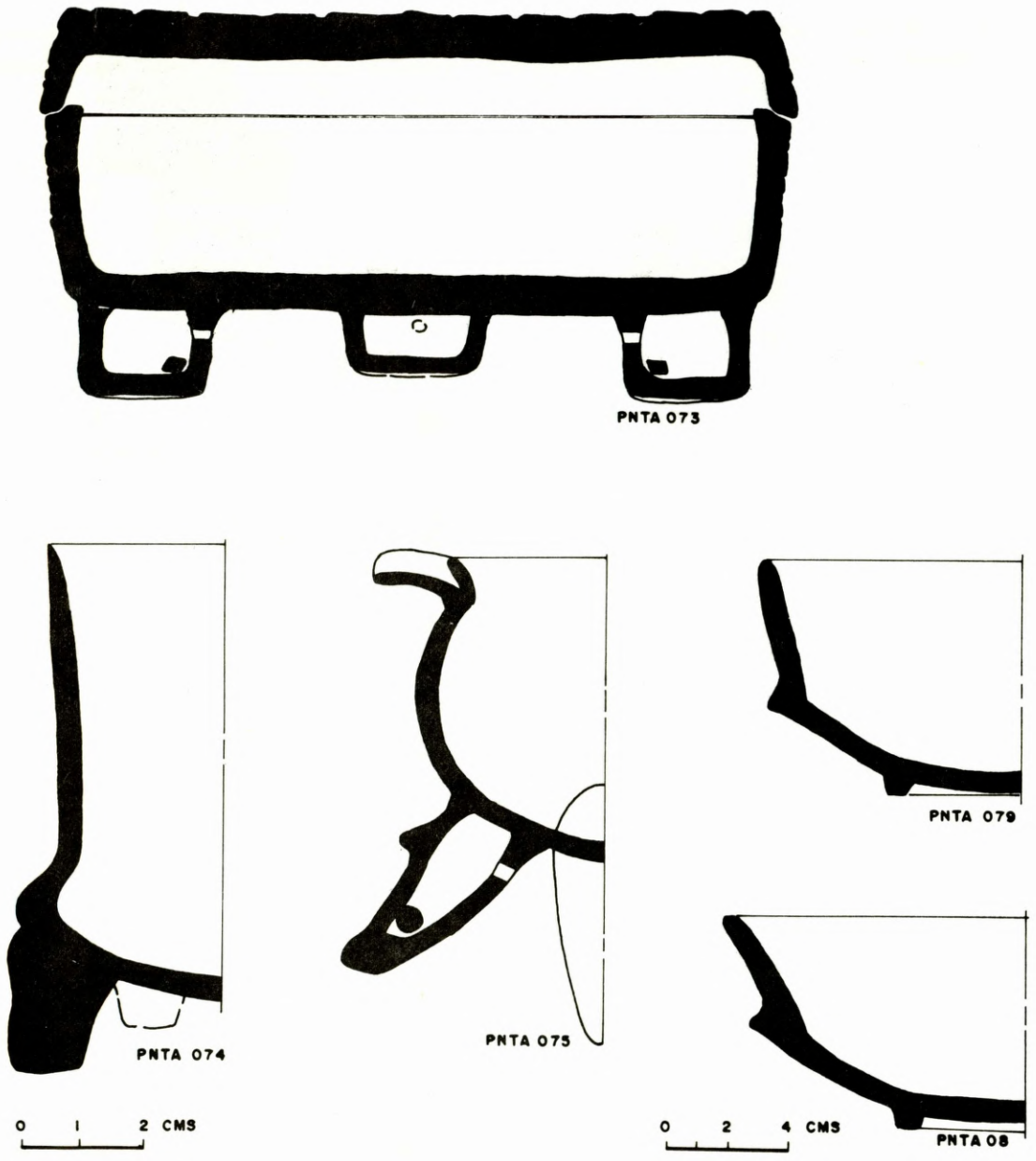

Fig. 6. Cerámica de entierro PNT 024.

asocia construcción ni piso de sustentación, como sucedió en el caso de los entierros PNT-025 y 026. Corresponde a un infante, de 0-3 años, consiste en un fragmento de cráneo y dientes, posiblemente haya estado orientado norte-sur.

La ofrenda incluyó seis vasijas (PNTA-087, 089/093, Fig. 12), una figurita de barro mostrando un individuo deforme, collar de jadeita y hueso, orejera y pectoral de jade (PNTJ-044/046), collar de cuentas elaboradas en concha, y fragmentos de una concha spondylus (PNTC-101/103).

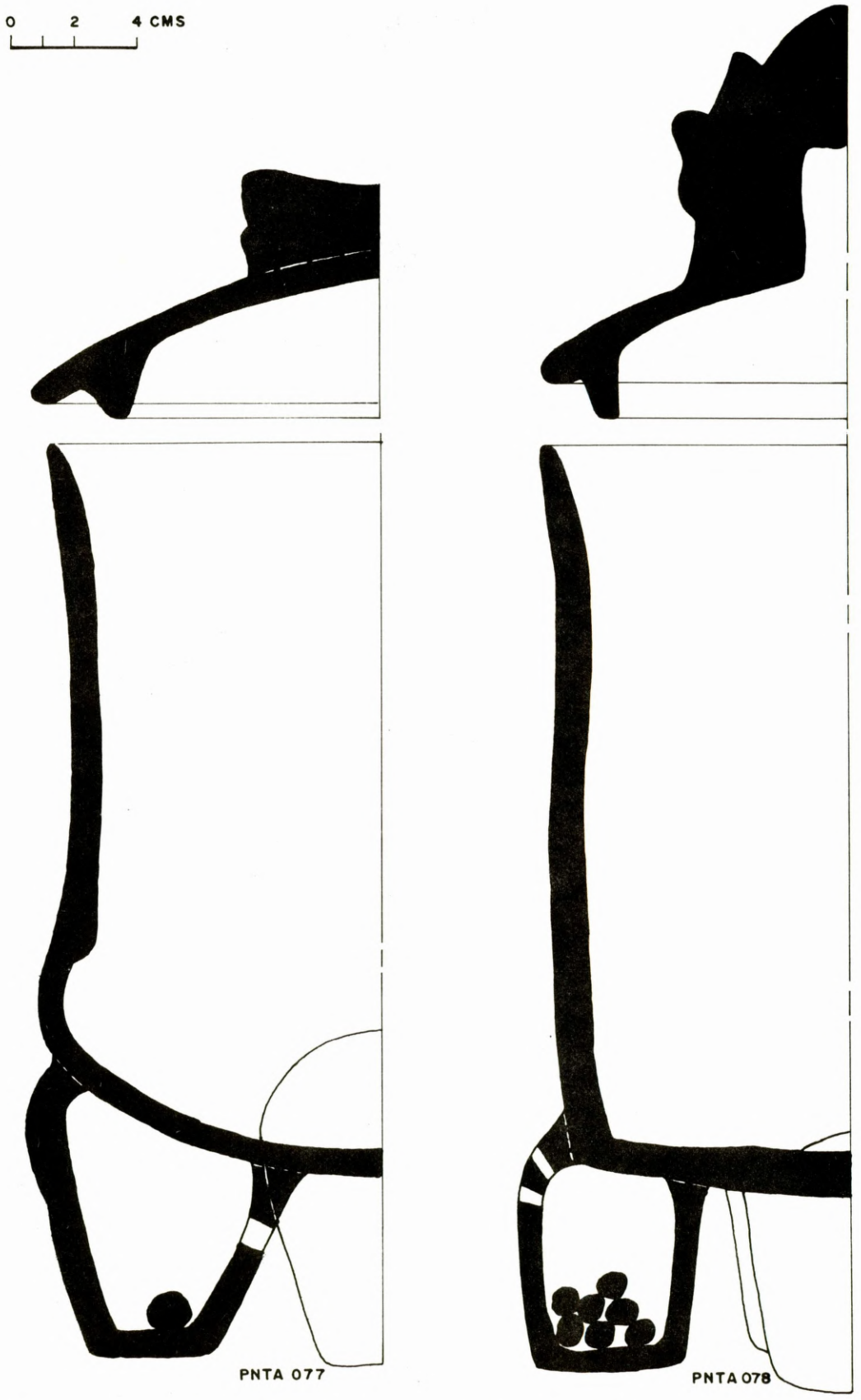

Fig. 7. Cilindros trípodes de entierro PNT 024.

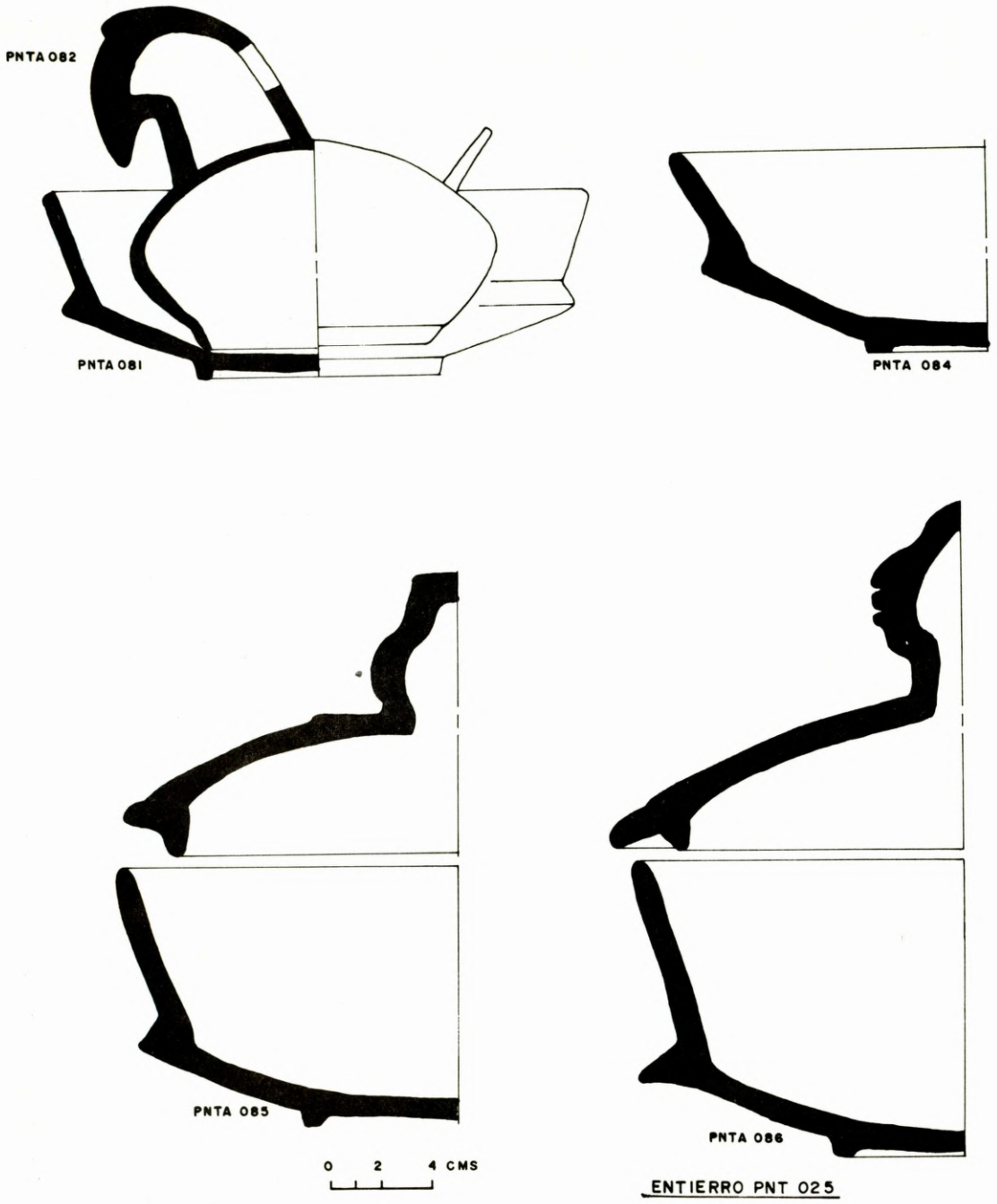

Fig. 8. Cerámica de entierro PNT 025.

Entierro PNT-062 (5D-88). Localizado en el eje, sobre lo que pudo corresponder a una banqueta de la plataforma superior de 5D-88-5 (Manik 1) cubierto por la construcción del templo superior; corresponde a un individuo masculino 21-35 años, en posición decúbito dorsal extendido. Fué colocado en una tumba orientada este-oeste, cuyas dimensiones son 2.60 m de largo y 0.90 m de ancho, con 1.1 m de altura; fué cerrada por siete lajas. El esqueleto se

encontró en mal estado de conservación, habiendo estado impregnado de cinabrio; un canino superior presentó incrustación de pirita tipo E-1.

La ofrenda consistió de 17 vasijas (PNTA-167/183, Fig. 9, 10, y 11), incluyendo varias efígies zoomorfas, una orejera de concha, pendientes de concha, cinco conchas spondylus (PNTC-115/123), pectoral, orejera, y cuenta de jade (PNTJ-056/058, 204), y una navaja de obsidiana (PNTL-027), con restos abundantes de cinabrio.

Entierro PNT-063 (5D-88). Localizado en eje, referido al piso 269.06 m SNM; no se conoce con claridad si este piso pudo corresponder a una incrementación tardía de 5D-88-5 (Manik 1); fué cubierta por el templo de 5D-88-6. El entierro de tipo indirecto fué removido en una fase posterior no plenamente establecida; correspondió a un individuo femenino, 18-20 años, cuyo cráneo presenta posible deformación intencional de tipo tabular erecta.

Las dimensiones de la tumba este-oeste fueron de 2.48 m de largo y 0.70 m de ancho, con 0.65 m de altura, cubierta por seis lajas alineadas. De la ofrenda quedaron dos vasijas (PNTA-191/192, Fig. 12), dos cuentas perforadas de jade (PNTJ-059/060), cuentas y pendientes de concha y una concha spondylus (PNTC-104/113); tambien se encontraron fragmentos de una figura indeterminada con huellas de estuco verde, blanco, y naranja (PNTF-123).

Escondite PNT-001 (5C-54). La secuencia estratigráfica de la plataforma superior en Gran Pirámide es confusa por la serie de remodelaciones estructurales finales que se llevaron a cabo durante el Clásico Temprano. Sobre la estructura 5C-54-5, construida en Manik 1 mediante ocho cuerpos, se efectuó la superposición del cuerpo 9 durante Manik 2 temprano para formar 5C-54-5A; en Manik 2 terminal se adicionó el cuerpo 10 formando así 5C-54-5B.

Localizado en el relleno del sector central de la plataforma superior de 5C-54-5A y bajo el primero de una serie de cuatro pisos asociados a esta plataforma, se encontró el escondite PNT-001, al cual se asocia el piso 288.64 m SNM. Este escondite, junto con el PNT-002, corresponde entonces a la elevación del cuerpo 9 de 5C-54-5, paralelo a la construcción del edificio 5D-86-6 (Manik 2 temprano) asimismo componente del complejo de conmemoración astronómica.

El escondite PNT-001 consistió en dos cuencos colocados borde a borde, asociados a un lecho de piedras y tierra gris (PNTA-048/049, Fig. 15). Estas vasijas pueden pertenecer a un tipo del complejo Manik que utilize engobe rojo, como es el caso del tipo Minanha en Barton Ramie, o a un tipo rojo no designado, tal véz Aguila Rojo-naranja: variedad Rojo Mate, debido a que según el proceso evolutivo

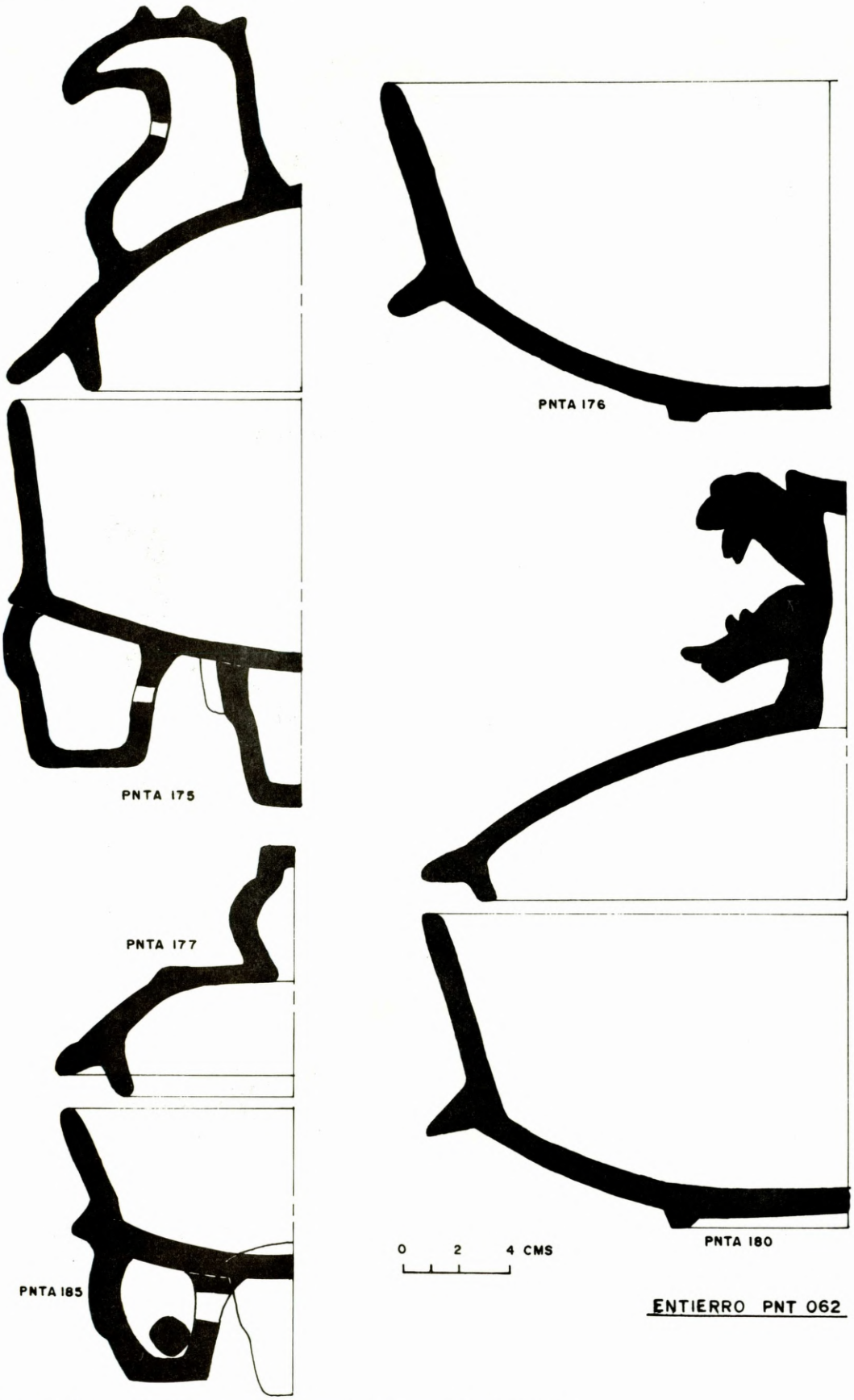

Fig. 9. Cerámica de entierro PNT 062.

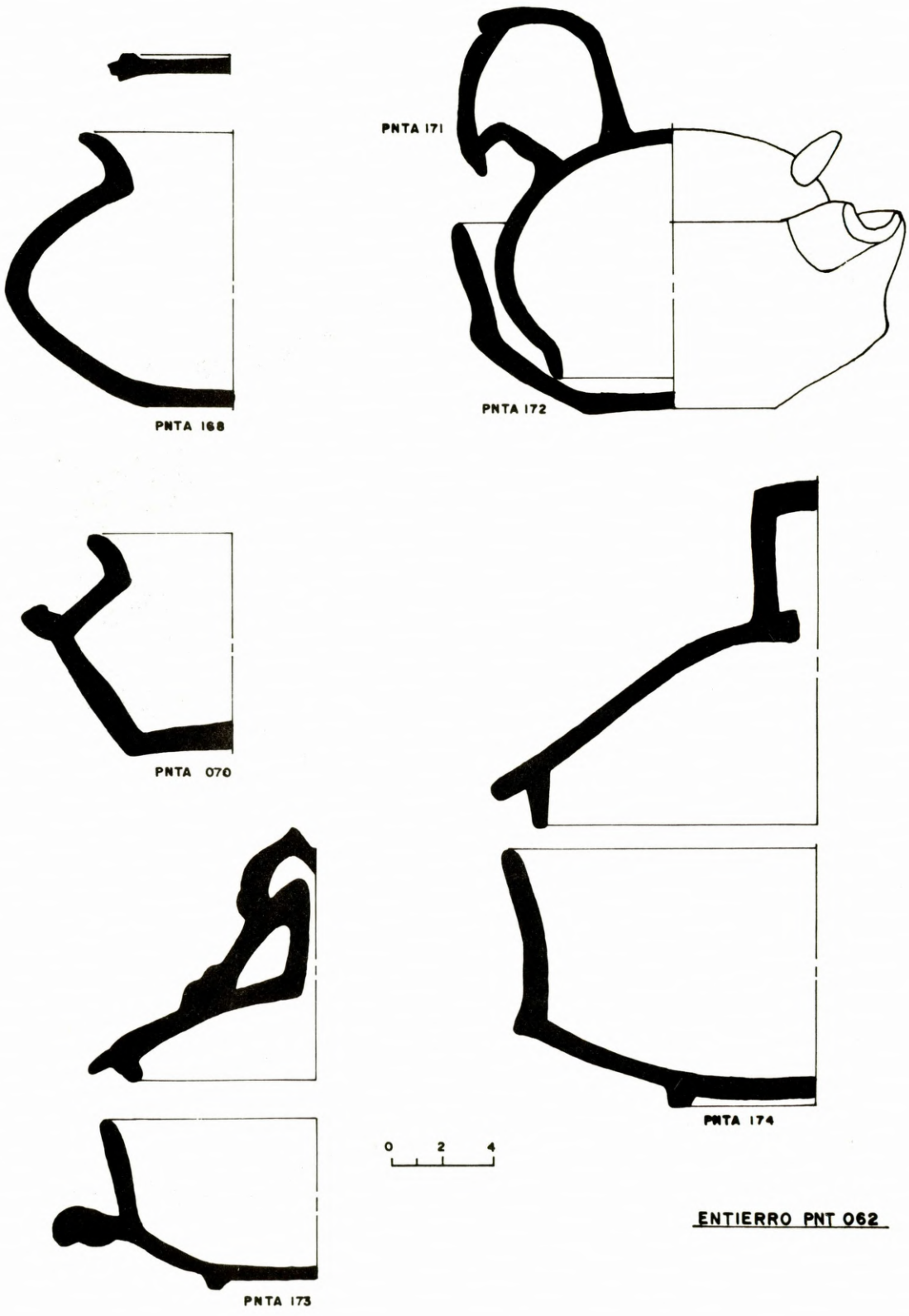

Fig. 10. Cerámica de entierro PNT 062.

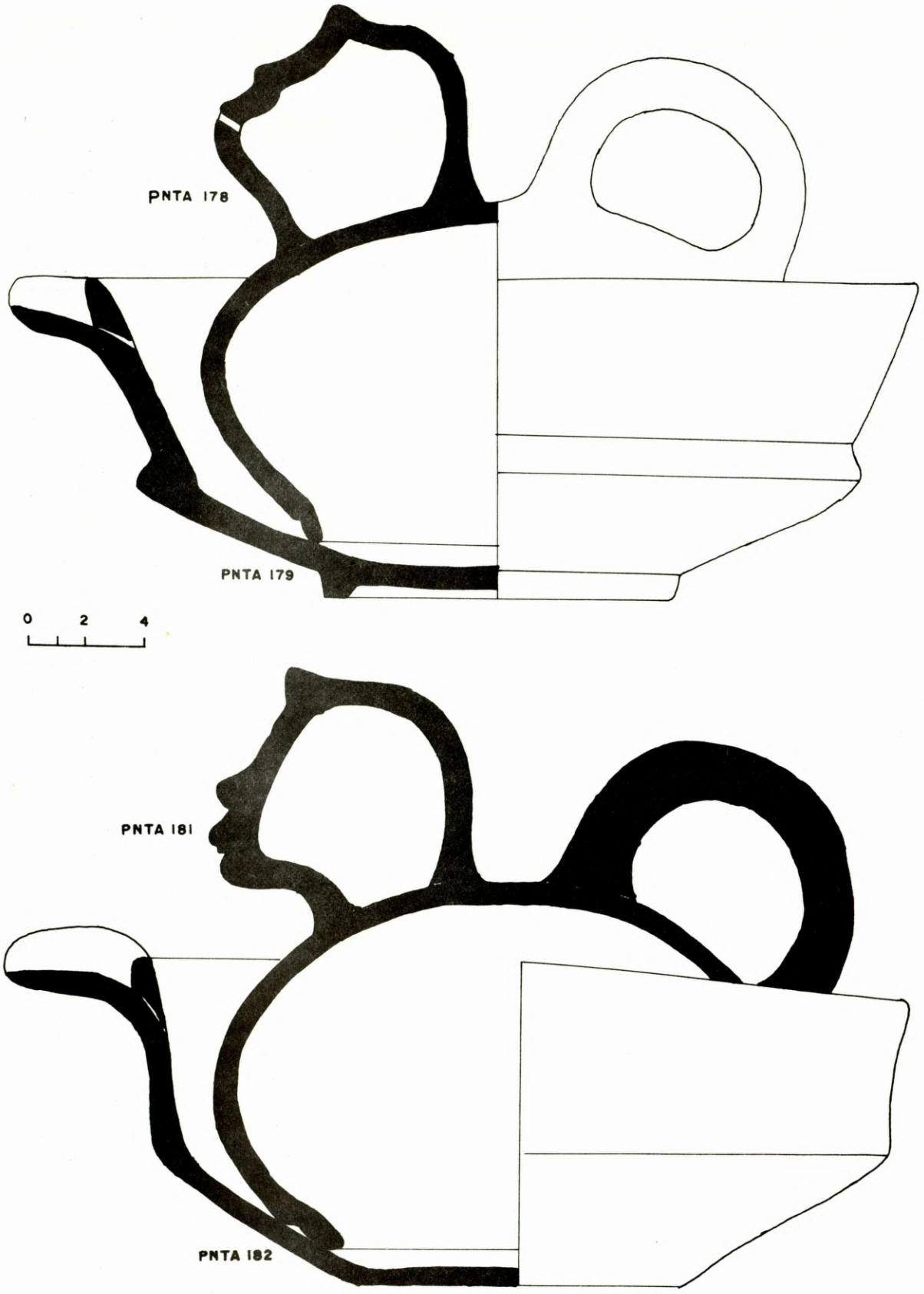

Fig. 11. Cerámica de entierro PNT 062.

observado en la pirámide, su último estadío constructivo no puede colocarse mas allá del horizonte Tzakol.

Escondite PNT-002 (5C-54). A 0.75 m más abajo del Escondite PNT-001 y asociado a la construcción del Cuerpo 9 de 5C-54-5A (Manik 2 temprano) se encontró el Escondite PNT-002 consistente en dos platos de tipo Aguila Rojo-naranja colocados borde a borde conteniendo en su interior cinabrio y otras particulas especulares (PNTA-050/051, Fig. 15). Se le asocia además una concentración de materiales fragmentados entre los cuales se encuentra un plato completo (PNTA-052) y un fragmento mayor de plato al cual le falta la base (PNTF-045), ambos del tipo Aguila Rojo-naranja.

Escondite PNT-008 (5D-86). Localizado en el eje este-oeste sobre la plataforma superior de 5D-86-6 (Manik 2 temprano), cubierto por la construcción del templo 5D-86-7 y posiblemente asociado al entierro PNT-019. Consistió en una vasija cilíndrica (PNTA-030, Fig. 15) que contuvo en su interior una vasija zoomorfa miniatura (PNTA-031, Fig. 15), ademas cuentas de piedra verde (PNTJ-013/014), varios implementos líticos en pedernal (PNTL-008/013, 074/075), fragmentos de hueso trabajado (PNTO-014) y cuenta, placa, y espina de raya (PNTC-053/055).

Depósitos Problemáticos del Grupo 6C-XVI. Con el fin de comparar los materiales descritos en los subcomplejos funerario y de escondites de Mundo Perdido, se incluyen dos muestras procedentes del grupo 6C-XVI, localizado unos 350 m al sur del núcleo principal del complejo ceremonial Mundo Perdido (Fig. 2); 6C-XVI resultó teniendo una densa ocupación del Clásico Temprano, subyaciente a su nivel superficial del Clásico Tardío, cuando solamente conforma un modesto grupo habitacional. Estas muestras consisten en dos depósitos problemáticos (PNT-019 y PNT-31) considerados importantes para la determinación del contenido cerámico de la fase media del horizonte Tzakol.

Depósito Problemático PNT-019. Localizado en el relleno del edificio Sub-07, formando parte del nivel inicial de construcción o estadío 1, situado en el lado este de la Plazoleta Sur del grupo 6C-XVI. Esta estructura es una plataforma estucada con el frente hacia el oeste, de menos de 0.50 m de altura. Este depósito de materiales fué concentrado en una hoquedad tallada en la roca natural entre una matriz de tierra negra suelta con escasa piedra pequeña, de 1.50 m profundidad, 4.50 m este-oeste, y 6.00 m norte-sur.

El contenido es sumamente variado y se compone de tiestos cerámicos, dos vasijas completas (PNTA-328 y 332), adornos y otros elementos de concha (PNTC-214/238), artefactos de hueso trabajado (PNTO-183/229), herramientas y adornos en piedra (PNTL-098/113; PNTJ-098/099), y restos

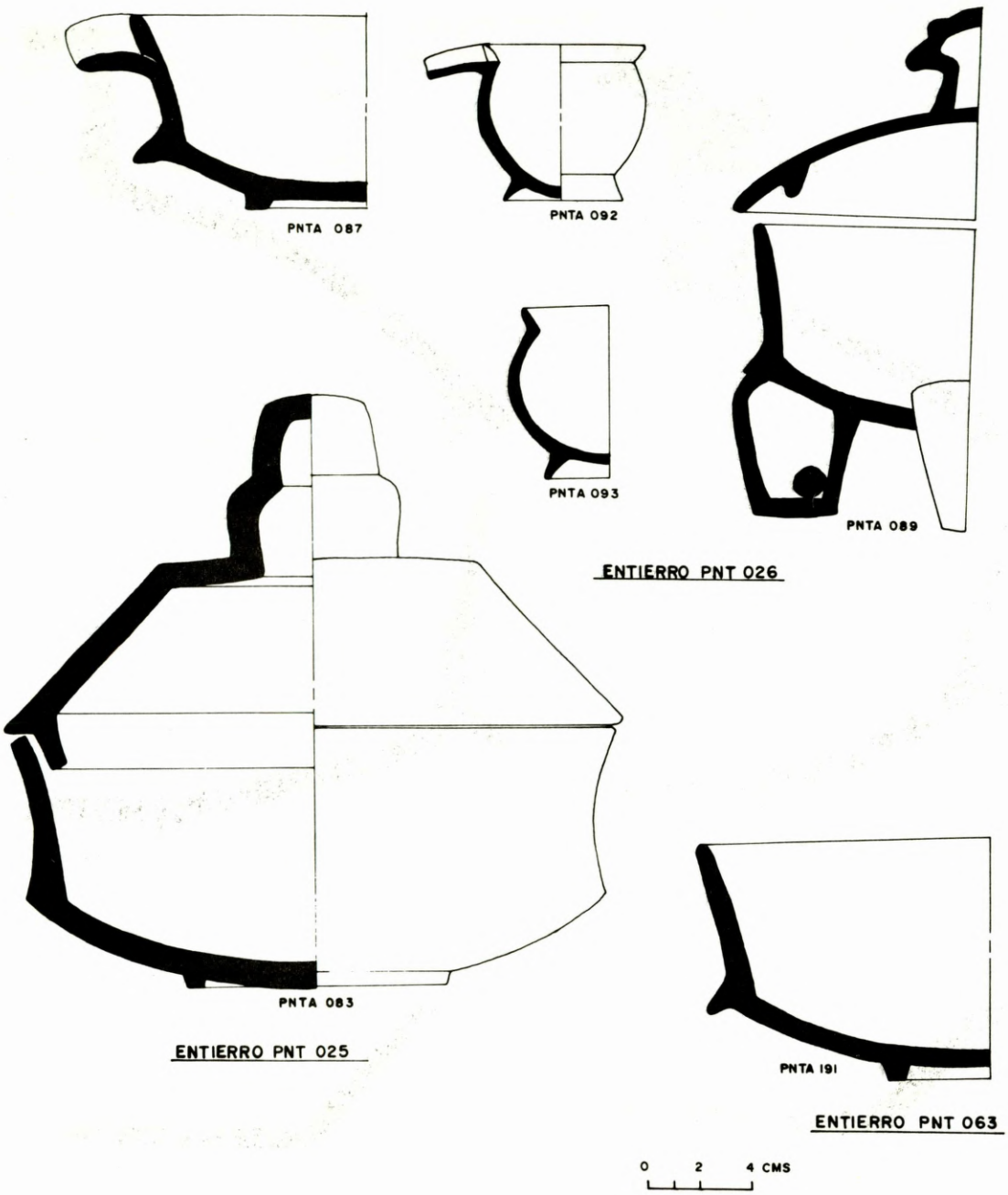

Fig. 12. Cerámica de entierros PNT 025, 026, y 063.

óseos humanos y animales. Se le considera vaciado en un 50% aproximadamente; fueron recuperados 35,953 tiestos. Por su contenido tipológico pertenece plenamente a la fase Manik 2.

Depósito Problemático PNT-031. Esta concentración de materiales, considerada originalmente como un entierro secundario múltiple (entierro PNT-060), se localiza a 4.45 m de profundidad bajo el lado oeste del edificio sub-75,

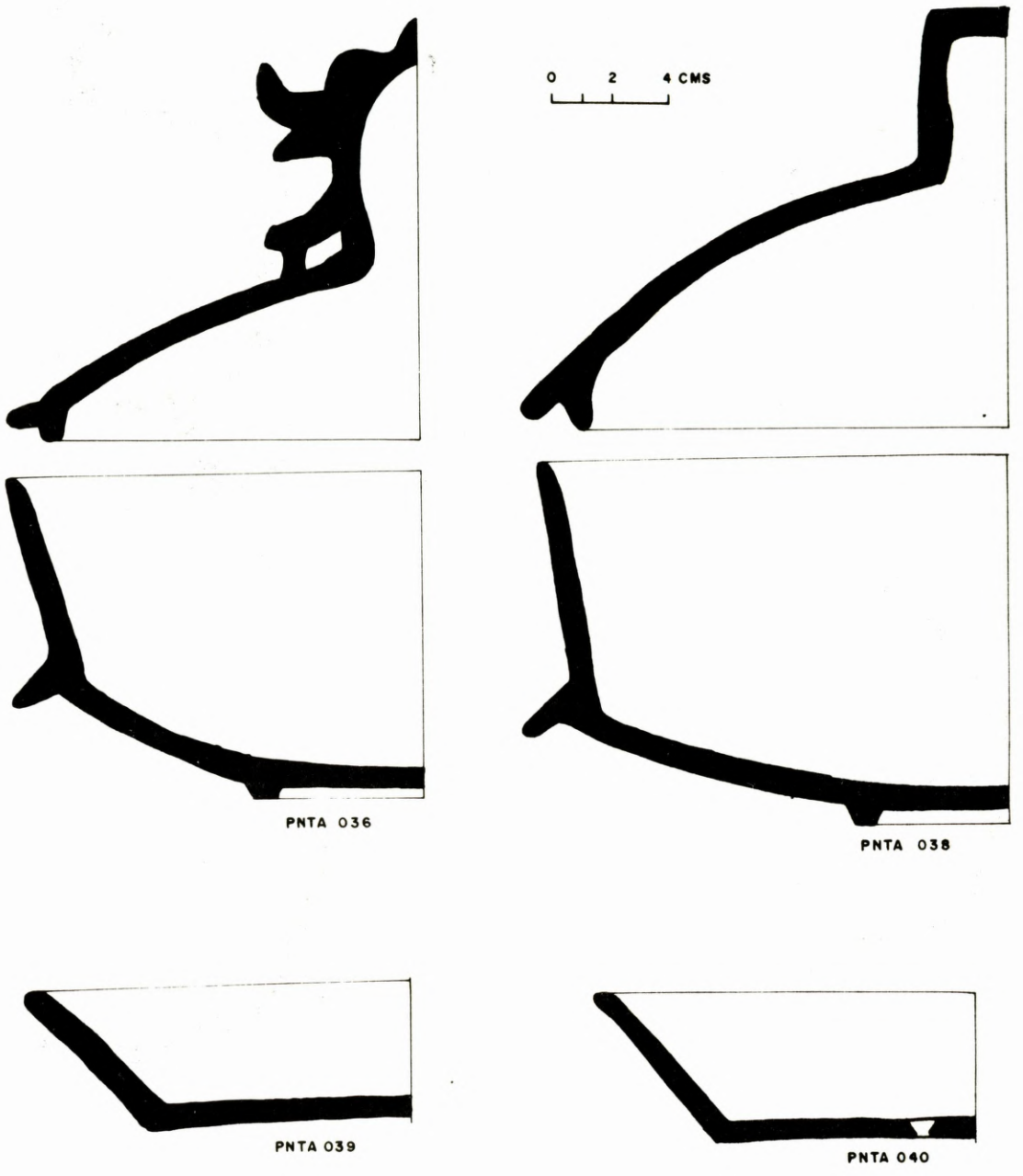

Fig. 13. Cerámica de entierro PNT 019.

sellado por un piso estucado del estadío 13 del conjunto, remodelación asignada a la fase Manik 3-A. Este deposito corresponde a una deposición que antecede al estadío 8, momento de transición entre las fases media y tardía.

Concentrado en una matriz de tierra negra suelta con poca piedra pequeña, dentro de una hoquedad en la roca caliza de 0.80 m profundidad promedio, con 4.00 m norte-sur y 1.20 m este-oeste en el sector norte y una extensión al

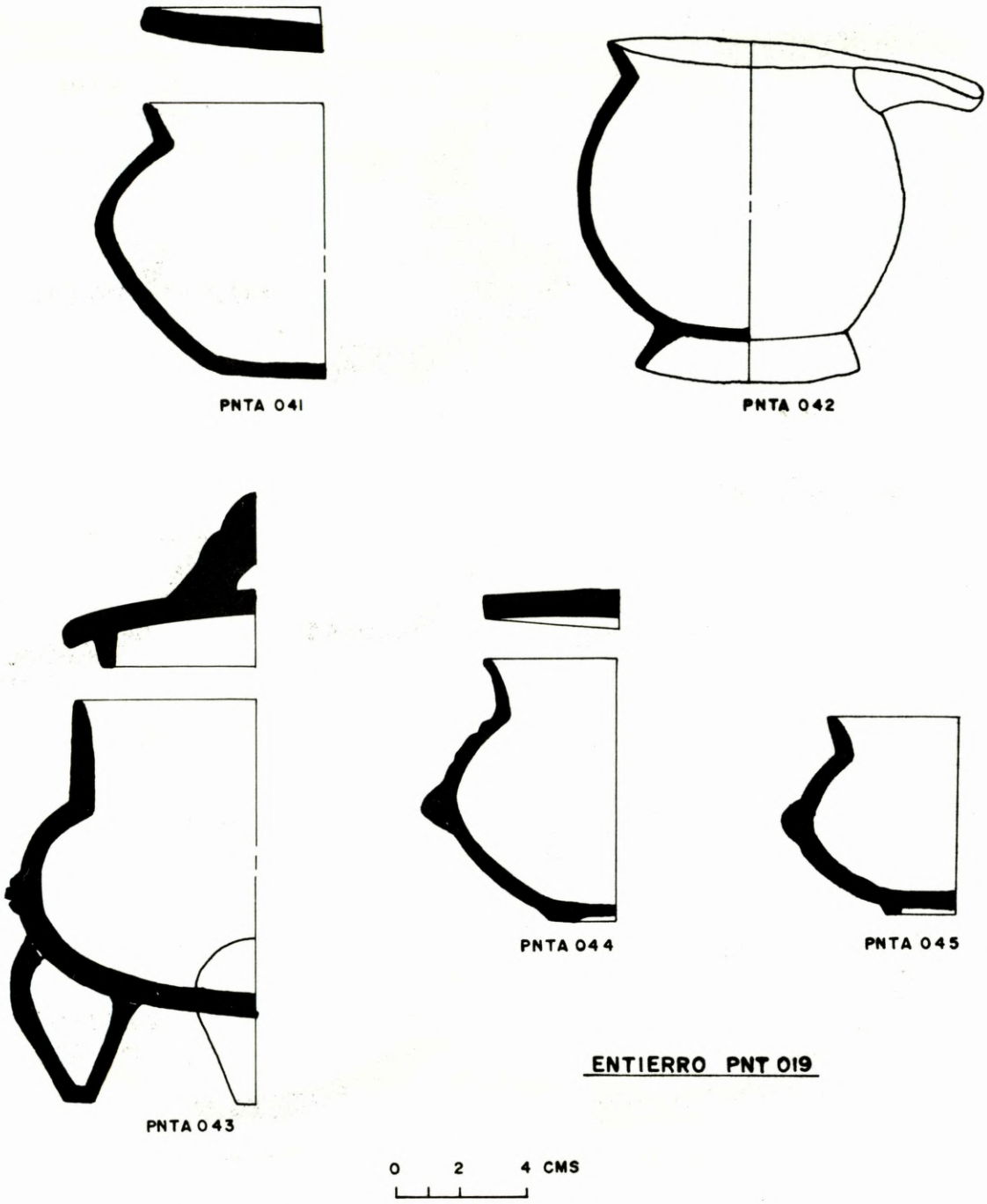

Fig. 14. Cerámica de entierro PNT 019.

sur de otros 2.30 m este-oeste. El contenido es variado con abundancia de restos óseos humanos y animales, tiestos cerámicos, dos vasijas completas (PNTA-205 y 210, Fig. 15), adornos y otros elementos de concha (PNTC-150/155), artefactos de hueso (PNTO-097/099), e implementos de piedra (PNTL-098/113). Fue vaciado en un 70% aproximadamente, recuperando 7.694 tiestos. Por su contenido tipológico pertenece al Manik 2 terminal.

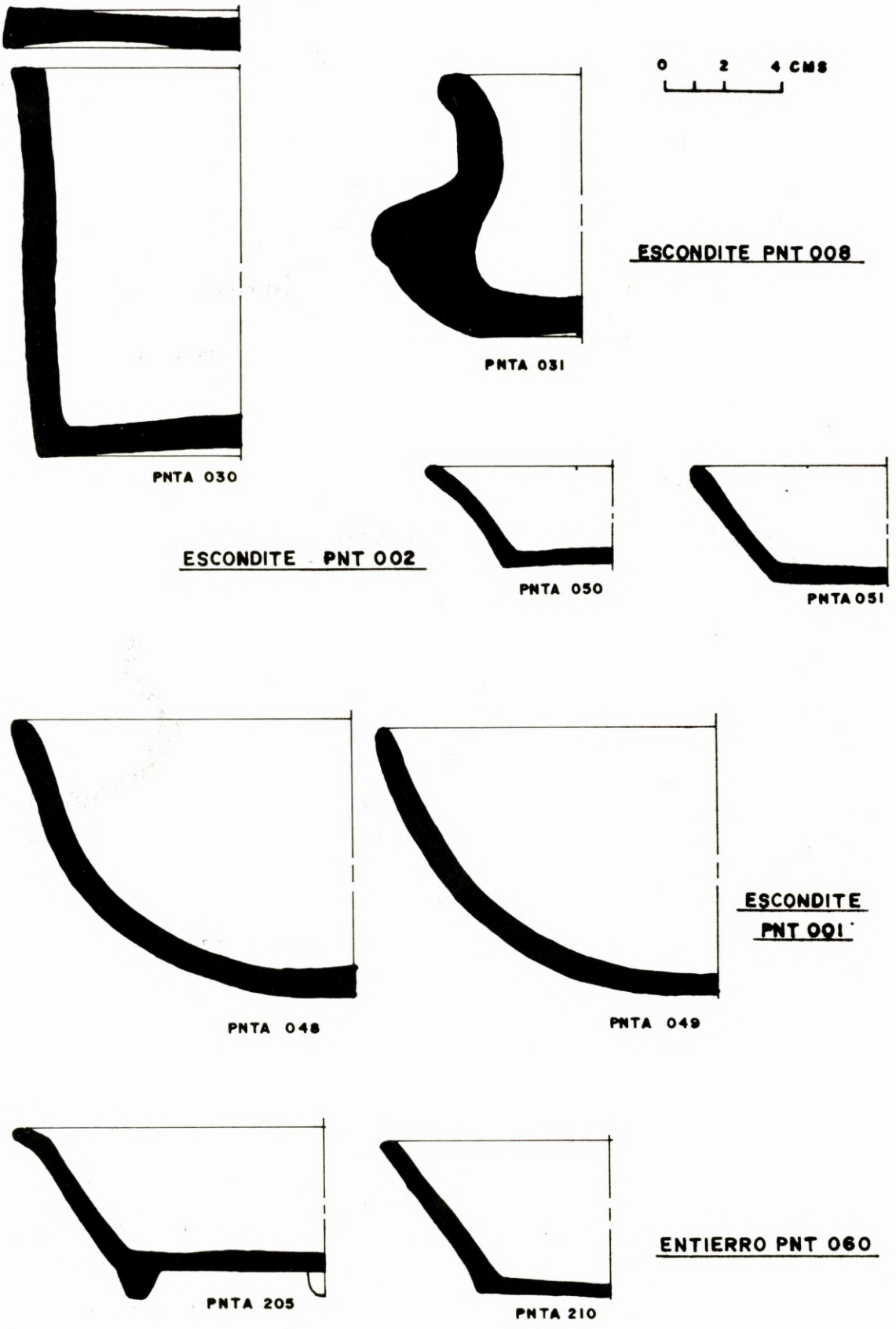

Fig. 15. Cerámica de varios escondites y entierros.

Manik 2 Visto Desde los Hallazgos de Mundo Perdido

La secuencia de tumbas asociadas al complejo de conmemoración astronómica indica que fueron depositadas en tres momentos: los entierros PNT-024, 025, y 062 fueron colocados previamente a los entierros PNT-026 y 063, los cuales coinciden con remodelaciones previas al término de la construcción de los templos 5D-84-6 y 5D-88-6; en el tercer momento se coloca el entierro PNT-019 al construir el templo final 5D-86-7. Arquitectónicamente, solo las tumbas PNT-019 y 063 presentan pisos propios, pues las demás se sostienen sobre pisos y construídos.

Por estos detalles en la deposición de las tumbas, puede plantearse una separación de los momentos temprano y tardío de la fase Manik 2, sin que esta división represente a subfases específicas. No es posible situar esta separación en un marco cronológico preciso debido a que las etapas constructivas se realizaron con poca diferencia temporal entre ellas. El entierro PNT-019 es entónces el último de la serie de la fase Manik 2 y puede anteceder brevemente al entierro 22 encontrado en la Acrópolis del Norte y que, como indica Coggins, daría início a la serie de entierros Manik 3-A.

Prácticamente todas las tumbas fueron colocadas en el eje este-oeste del edificio, orientadas en esa dirección, excepto los entierros PNT-025 y 026. Es interesante que tanto entierros como escondites fueron colocados en el eje principal de las estructuras. Las ofrendas por lo general fueron colocadas respecto a la pélvis y al tórax de los individuos. Gran parte de los motivos zoomorfos que se incluyeron en las vasijas fueron relacionados con aves: guacamayos, garzas, pavos, además de tortugas, monos, jaguares, lagartos, e insectos.

Puede resumirse que en los entierros de la serie temprana de Manik 2, aunada a las formas tradicionales de fuentes o platos de pestaña basal y ángulo-Z con tapadera cóncava, resultan características las formas de vasos tetrápodes, vasijas efígie que representan guacamayos y monos, picheles de paredes delgadas o de grosor usual, platos con vertedera, soportes con la parte superior bulbosa, tapaderas cóncavas con refuerzo angular superior. Las vasijas pueden suscribirse a los tipos Aguila Rojo-naranja, Balanza Negro, Pucté Café, y los policromados Caldero Ante y Yaloche Crema, siendo notoria la ausencia del Dos Arroyos Naranja Polícromo.

En cuanto a decoración privaron diseños iconográficos complejos, en los cuales se integran motivos antropomorfos, zoomorfos, abstractos, geométricos, y glíficos, sobresaliendo las formas serpentinas. Los cuerpos de los animales, cuyas cabezas son las asas de las tapaderas cóncavas, siempre se desarrollan pintados en la superficie

de estas.

En el caso del contenido del entierro PNT-019, representativo de la fase Manik 2, en su momento terminal, resalta la ausencia de platos de ángulo-Z agúdo y de vasos tetrápodes; pequeñas ollas cubiertas por tiestos recortados son usuales; sobresale el mayor desarrollo dimensional de las fuentes con tapadera respecto a los de la serie anterior. Se representan tambien diversos animales; los conceptos decorativos son similares a lo descrito, aunque hay menor uso de la policromia. Tuvo mayor abundancia de adornos en jade, objetos de concha, y de otros materiales especiales que las otras tumbas consideradas.

Un caso sobresaliente dentro del contenido del entierro fué la presencia de una vasija tetrápode de material perecedero de la cual únicamente quedaron los soportes elaborados en estuco representando cabezas humanas pintadas en negro, rojo, verde, y blanco, así como el asa con una forma humana completa la cual indica que dicha vasija tuvo tapadera; no se conoció la forma precisa. Otro caso que puede relacionarse a la parte terminal de Manik 2 se encuentra en una figura elaborada en estuco del entierro PNT-063, cuyo estado fragmentario impide determinar su conformación. La inclusión de materiales estucados en estas tumbas las aproxima al caso del entierro 22 de la Acrópolis del Norte.

Es evidente que las tumbas elitistas de fase Manik 2 estan representadas por las de Mundo Perdido en cuanto a contenido, diversidad tipológica, formas cerámicas, y conceptos decorativos o iconográficos, por no conocerse otras en Tikal. Su aparente austeridad respecto a las tumbas Manik 3-A de la Acrópolis del Norte puede más bien reflejar la tradición o ideología del linaje al que correspondieron.

Los escondites de fase Manik 2 prosiguen colocándose en el eje de estructuras; son menos numerosos que en la fase Manik 1 pero su posición superpuesta borde a borde refleja la misma tradición de etapas anteriores; el contenido es menos diverso y abundante, aunque persiste el uso del cinabrio y de algunos materiales marinos, registrandose mayor numero de implementos líticos; la aplicación de jeroglíficos en la base del plato superior no se documenta, aunque ello no significa su abandono, pues en épocas posteriores este rasgo vuelve a detectarse en un escondite del Clásico Tardío.

Las formas usuales siguen siendo platos de paredes divergentes y se incluyen cuencos de paredes curvo-convergentes, así como un vaso cilíndrico negro de tapadera plana. La variedad tipológica se reduce a los tipos Aguila Rojo-naranja, Balanza Negro, y un rojo no especificado. Como en los casos anteriores, parecen ser ofrendas

terminales referidas al final del uso del edificio o parte de un ritual que acompañó a un proceso de remodelaciones arquitectónicas.

Una variante dentro del subcomplejo de escondites para la fase Manik 2 vienen a ser las concentraciones de materiales líticos depositadas en ejes respecto a la base y descansos de escalinatas, como lo ilustraron los escondites PNT-091 y 092.

LA FASE TERMINAL DEL HORIZONTE TZAKOL EN TIKAL

Debido a la estabilidad de los tipos cerámicos es complejo dividir en las colecciones de tiestos a las fases integrantes del complejo Manik en Tikal. Es hasta el horizonte Tzakol 2(b) o Manik 3-A en Tikal, cuando puede lograrse una separación adecuada en los subcomplejos funerario, de escondites y de depósitos problemáticos, pues se tornan populares algunos tipos cerámicos que permiten fijar el momento cronológico con mayor precisión.

La fase Manik 3 fue subdividida por Coggins (1975) en A y B; Manik 3-A cubre el período caracterizado por la presencia de rasgos de carácter foráneo, presumiblemente Teotihuacanos, mientras Manik 3-B refiere una revitalización de formas tradicionales en el repertorio de las cerámicas elitistas, dando inicio a las tradiciones del horizonte Tepeu.

En esta propuesta se retrocede el inicio de Manik 3-A para coincidir con la muerte del gobernante Señor Danto en 426 DC (8.19.10.0.0) y de manera más justificada hacia los mediados de su reinado, es decir hacia 400 DC, momento en que aparecen por vez primera los rasgos foráneos en las cerámicas elitistas. Los tipos cerámicos diagnósticos para esta fase pueden surgir desde la fase media y algunos desde la temprana, pero la frecuencia que muestran entonces no es significativa y parece ser muy diferente a la alcanzada durante la fase tardía.

La mejor posibilidad de reconocer las colecciones pertenecientes a la fase Manik 3-A la proporciona el inventario de formas cerámicas; algunas de ellas refieren un drástico aumento, tales como los cilíndros trípodes con soportes almenados y tapaderas cónicas, en vez de las cóncavas del período anterior, así como la decoración secundaria en estuco con pintura múlticolor y diseños iconográficos complejos aplicada a los cilíndros del tipo Balanza Negro, lo cual generalmente se ha considerado como muestra de la introducción foránea al inventario cerámico local. El problema reside en que estos materiales se presentan solamente en contextos rituales y de depósitos especiales, pero no se localizan en rellenos u otro tipo de desechos.

En relación a formas cerámicas se incrementa el uso en los subcomplejos especiales de los cilindros trípodes de soportes rectangular o almenado y cuencos de paredes curvo-convergentes, continuando el uso de las fuentes de pestaña basal, mermando las fuentes de ángulo-Z agudo y de las tapaderas cóncavas.

Igualmente útiles pero más dificiles de observar son el aumento frecuencial de tipos específicos como el Maaz Rojo Estriado y Japon Resist, estando documentado este último, al menos dentro de las colecciones de tiestos del Proyecto Nacional Tikal, desde Manik 3-A, aunque desafortunadamente son tipos cerámicos escasos. El Maaz Rojo Estriado da inicio en la fase media incrementando su frecuencia hacia la fase tardía. Continuan tipos con decoración específica de los grupos cerámicos Balanza, Pucté, y Aguila, así como el grupo de polícromos no especificados.

De acuerdo a los diagnósticos anteriormente mencionados se puede indicar que los hallazgos Manik 3-A resultan abundantes en contextos de subcomplejos funerario y de depósitos problemáticos tanto en Tikal como en Uaxactún, Altar de Sacrificios, Becán, Altun Ha, y Rio Azul, entre otros.

En Manik 3-B hay cambios por el abandono del uso de vasijas estucadas y de cilindros trípodes. Prosiguen los tipos correspondientes a los grupos cerámicos Triunfo, Balanza, y Aguila, aunque este grupo comparte índices frecuenciales con cerámica de engobe rojo que será abundante en la fase inicial del Clásico Tardío (Ik), como el Rojo Nanzal y una variedad temprana de Rojo Tinaja. Los policromados reúnen características decorativas de ambas fases. Surge la decoración mediante bandas glíficas, pasando esta al interior de las vasijas.

Manik 3-B equivale a la fase Tzakol 3, de duración variable en las diversas regiones de las tierras bajas centrales, estando mas definida en el área del río de la Pasión (fase Veremos de Altar de Sacrificios) y en el sector norte (fase Sabucán de Becán).

En estos sitios la fase Tzakol 3 se interpola con la parte inicial del Clásico Tardío, lo cual no es tan evidente en Tikal, Uaxactún, y Barton Ramie, en donde el cambio es relativamente más abrupto, aunque la posibilidad de aislar una subfase Manik 3-B posterior a la introducción de los rasgos foráneos que define a Manik 3-A, permite lograr este suave cambio y la introducción de los nuevos modos del Clásico Tardío.

Para Manik 3-A la secuencia dinástica estaría encabezada por los gobernantes Señor Danto, Cielo Tormentoso, y Jabalí Kan, quienes cubrirían parcialmente la

época entre 400 y 500 DC, situación que puede variar según adelante la investigación epigráfica. Manik 3-B puede dar inicio con el gobernante Cráneo Garra de Jaguar a partir de 500 DC y continuar con Doble Pajaro, en 537 DC, hasta alcanzar una fecha aproximada en 600 DC, cuando definitivamente se inician los movimientos del Clásico Tardío (Ik en Tikal), posiblemente con la entronización de Escudo Calavara (Jones y Satterthwaite 1983).

CONSIDERACIONES GENERALES

Dentro del análisis del contenido de los subcomplejos funerario y de escondites de la fase Manik 2 en Mundo Perdido, Tikal, sobresalió la importancia de diversas tumbas consideradas de carácter elitista por su posición y contenido, mismas que fueron situadas en los edificios que integran el lado este del complejo de conmemoración astronómica, desarrollado en Mundo Perdido desde tiempos Preclásicos; asimismo resultó notable la abundancia de escondites dedicatorios o terminales situados en la estructura 5D-86, compartiendo el eje este-oeste que privó entre este edificio y 5C-54 o Gran Pirámide (Fig. 3).

Hasta este momento no se habian localizado tumbas de importancia social en estos complejos especializados y era mas bien su ausencia un rasgo característico de ellos, debido a que el único complejo de este tipo explorado habia sido el grupo E de Uaxactún, donde fueron localizados escondites que incluyen restos humanos, pero que no indican que a este tipo de grupos se le implementará una función colateral de índole funeraria para linajes principales o de poder. Sin embargo, parece haber correspondencia con el caso de Mundo Perdido, en cuanto a la tradición de escondites asociados a ejes, mediante platos colocados borde a borde del tipo Aguila Rojo-naranja, según lo indican las ofrendas 9-13 encontradas en la estructura E-VII y las cistas 1, 6, y 8 del templo E-II (Ricketson y Ricketson 1937:150-152).

En Tikal, generalmente se consideró a Mundo Perdido como un grupo donde no habian sido erigidas estelas; el sorpresivo hallazgo en el templo 5D-86 del fragmento de la estela 39, fechada en 375 DC, momento terminal de la fase Manik 2, cambió estas apreciaciones y condujo a pensar que la estela 29, anterior a esta, pudo proceder originalmente de este complejo, talvés asociada a la base del mismo edificio, todo esto apoyado en la deposición durante la fase Manik 1 del entierro multiple PNT-022 y la existencia desde los inícios de Manik 2 de una plataforma en la base de la escalinata de 5D-86.

La posible asociación entre monumentos y entierros de élite puede indicar que los conjuntos arquitectónicos a las

que se asocian tendrían la función colateral de índole funeraria mencionada, tal los casos de Acrópolis del Norte y ahora, Mundo Perdido, quedando planteada la interrogante de la ausencia en el grupo E de Uaxactún de entierros correspondientes a individuos de linaje sobresaliente, no obstante la erección de las estelas 18, 19, E-1, y 20, del Clásico Temprano.

La importancia de entierros colectivos como marcadores de eventos rituales especificos también esta ejemplificado en el sitio Miramar, Chiapas, donde se encontraron 19 esqueletos y tres cráneos depositados en una fosa; según el estudio de sus posiciones, estas parecian ser víctimas de un sacrificio masivo. Agrinier (1978:3, 16-17) considera que este tipo de sacrificios colectivos son más característicos del Clásico Medio temprano y que los motivos pueden ser de índole votiva, propiciatorios, o de rituales astronómico-calendáricos. El entierro PNT-022, con características similares al de Miramar, está situado en el eje principal del complejo de conmemoración astronómica, por lo que puede reflejar rituales asociados a este tipo de complejos así como los relacionados a la dedicación de monumentos.

La serie de tumbas de fase Manik 2 encontradas en Mundo Perdido adquieren importancia debido a que no se habian localizado otras tumbas de esta época en excavaciones anteriores en Tikal, siendo así su contenido significativo para la definición de las formas y tipos cerámicos más frecuentes para este ceremonial funerario; caso similar lo representan los escondites de fase Manik 1 del mismo conjunto, tampoco frecuentes en exploraciones de sitios mayores. Esta situación permite lograr una definición cerámica adecuada para estos períodos. En Uaxactún solamente hay referencia a dos enterramientos que pueden corresponder a estas fases; el entierro B-1 puede reflejar ciertos rasgos de la fase temprana, mientras el B-2 encaja plenamente en la fase media (R. Smith 1955: Fig. 12 y 13).

Para la fase Manik 1 resulta notable la existencia de decoración glífica de carácter caligráfica aplicada a la base del plato superior en los escondites de tradición borde a borde (Fig. 5), lo cual concuerda con el motivo iconográfico que aporta Coggins (1975:121, Fig. 38a) en relación al escondite 144 de la Acrópolis del Norte; los glífos se aplicaron sobre platos del tipo Aguila Rojo-naranja, que desde entonces se reporta como un tipo cerámico importante para el subcomplejo de escondites, asimismo usual dentro de las ofrendas funerarias.

Junto a estos complejos de características rituales deberían incluírse los denominados depósitos problemáticos, que son concentraciones masivas de material cerámico depositadas generalmente en hoquedades talladas en la roca

caliza; a diferencia de los basureros, su contenido incluye vasijas completas, fragmentos y objetos completos en hueso trabajado, concha, jade, otras piedras verdes, implementos líticos, materiales exóticos, así como abundantes huesos humanos y de animal. Este tipo de depósitos parecen ser parte de una tradición ligada a un ritual Maya desde el inicio del asentamiento Preclásico.

Para la fase Manik 2 el subcomplejo funerario contempla una marcada especialización en la elaboración de los ejemplares cerámicos depositados en tumbas, individualizando las piezas principales e incluyendo asimismo otras vasijas de carácter más generalizado, como pueden ser ollas, platos, y picheles. La relación estilística de las fuentes de pestaña basal y tapadera cóncava entre las distintas tumbas es notable; sus asas, generalmente elaboradas, representan formas geométricas o animales, cuyos cuerpos se extienden en las tapaderas.

De esta manera es evidente el uso del modelado como una técnica decorativa primaria; además de las asas de tapaderas cóncavas, tambien en los soportes tetrápodes se adoptan formas geométricas compuestas donde predomina una sección bulbosa en la parte superior; estos soportes sostienen a vasos, cuencos, y platos; otros soportes son zoomorfos representando lagartos y jabalíes sosteniendo generalmente ollas. Sobresalen las vasijas efígie en forma de guacamayos y monos, cuya característica común es que la boca de la vasija fué utilizada como base, colocándose dentro de platos que generalmente presentan vertedera (Fig. 8, 10, y 11); en el caso de los monos, la cola sirve de asa. El concepto de la vasija efígie zoomorfa de este tipo puede proceder de una tradición anterior, al haber sido localizada en el sitio de Cuello, una de ellas, representando a una guacamaya (Hammond 1982).

Lo que podría ser un rasgo particularmente diagnóstico para la fase Manik 2 lo consistuyen tapaderas cóncavas con refuerzo angular (Fig. 8 y 12); parecen marcar una transición entre el concepto de tapadera cóncava y cónica, estas últimas serán características de los cilindros trípodes de Manik 3-A, llegando a adoptar con el tiempo una forma convexa. En las tapaderas cóncavas de refuerzo angular se desarrolla el concepto de truncar la parte superior sobre la cual se coloca el asa; esta superfície plana se refuerza mediante una sección angular u "hombrera"; fueron localizados dos casos del tipo Aguila Rojo-naranja en los entierros PNT-025 y 062. Apoyando la idea de esta transición, se observa una tapadera cónico truncada en una fuente de pestaña basal del tipo Caldero Ante Polícromo (Fig. 12).

La tradición polícroma observada en las vasijas de fase Manik 2 encontradas en el subcomplejo funerario de Mundo Perdido indicó una marcada preferencia por los tipos

Caldero Ante y Yaloche Crema excluyendo totalmente al tipo mayoritario en las colecciones de tiestos, el Dos Arroyos Naranja. Por lo general, los diseños son desarrollados en fuentes con pestaña basal, tapaderas cóncavas, y vasos tetrápodes que muestran aspectos iconográficos complejos de motivos serpentinos, zoomorfos, y glíficos demarcados por paneles.

La exclusión en las tumbas Manik 2 del tipo Dos Arroyos Naranja Polícromo, así como del San Blas Rojo-sobre-naranja, no puede justificarse en el sentido de que formen parte de contextos rituales mas ligados hacia lo habitacional por ser tipos mayoritarios en los depósitos problemáticos, debido a que en estos contextos también aparece el Caldero Ante; el hecho de que los polícromos asociados a estas tumbas sean exclusivamente Caldero y Yaloche quizá pueda deberse simplemente al resultado de una preferencia particular por parte del linaje representado en los entierros de Mundo Perdido. En otros sitios, como en Uaxactún y Altar de Sacrificios, existe el tipo Dos Arroyos Naranja en contexto funerario, aunque en algunos casos se trata de enterramientos de la fase tardía (R. Smith 1955; A.L. Smith 1972).

En este análisis hemos optado por retomar los discutidos tipos Dos Hermanos Rojo y Discordia Negro, por considerar que su definición tipológica está apoyada en una buena seriación estratigráfica y arquitectónica. En el caso del tipo Dos Hermanos Rojo se encontró una vasija completa de forma poco usual (Fig. 4), cuyo engobe mostró una característica superficial bastante uniforme mediante múltiples inclusiones de puntos negros que no pueden atribuirse solamente a un accidente tecnológico durante la cocción de un ejemplar del tipo Aguila Rojo-naranja; la coloración notablemente más roja le aproxima a ser un tipo poco frecuente y transicional con las cerámicas del grupo Rojo Sierra del período Preclásico. Su aparición en un hallazgo de fase Manik 1 apoya su existencia como tipo.

El tipo Discordia Negro, caracterizado por la delgadez de sus paredes, fue adscrito al "ware" Petén Lustroso por compartir rasgos característicos de composición de pasta con materiales del grupo Balanza, desestimando la posibilidad de que pueda adscribirse a un "ware" Negro Delgado. Esta representado en picheles de reducido tamaño incluídos tanto en las tumbas de fase Manik 2 como depósitos problemáticos (Fig. 12); parece ser un tipo popular en esta forma específica, diferenciandose en tamaño de otros picheles del tipo Balanza Negro que se encontraron coexistentes en el mismo contexto; comparten el rasgo de la base pedestal incipiente que también fuera observada en otras vasijas de estas tumbas. Por la delgadez obtenida al modelar la pasta, el tipo Discordia pudo ser implementado específicamente para la manufactura de picheles miniatura. Uaxactún refiere este tipo en forma de pichel tanto para la

fase Tzakol 2 como para Tzakol 3, siendo para entonces de mayor altura (R. Smith 1955; Fig. 12r y 23b3).

La división tradicional del horizonte Tzakol, según fuera definida en base a los estudios de Uaxactún, ha caído en un traslape cronológico que afecta la definición del contenido cerámico de las fases media y tardía, imposibilitando la observación de los cambios cerámicos diagnósticos y los fenómenos sociales asociados a éstos. Esta situación se ha venido observando en los estudios posteriores al de Uaxactún en las tierras bajas Mayas. Ha resultado necesario el replanteamiento de los contenidos cerámicos y posición cronológica de cada una de las fases con la finalidad de obtener apreciaciones más concretas que involucren no solamente al material cerámico, sino al epigráfico y arquitectónico para englobar en forma precisa los movimientos sociopolíticos del Clásico Temprano.

En base al contenido de los subcomplejos funerario, de escondites y depósitos problemáticos de las fases Manik 1 y 2 en Mundo Perdido y 6C-XVI en Tikal, se ha pretendido replantear cronológicamente al horizonte Tzakol, proponiendo que la fase Manik 1 quede adscrita en un márgen temporal de 250 a 300 DC, corto período transicional que amalgama las tradiciones Preclásicas con las Clásicas Tempranas. La fase Manik 2, de 300 a 400 DC, se define como una etapa importante en cuanto a la clara definición cerámica local y en cuanto a los aspectos culturales del horizonte que ya conllevan eventos dinásticos documentados. La fase Manik 3-A, entre 400 y 500 DC, caracterizada por la evidente presencia de rasgos que han sido considerados foráneos dentro del inventario cerámico local en contextos rituales. La fase Manik 3-B, de 500 a 550 DC, se caracteriza por el abandono de los rasgos arriba mencionados para las cerámicas elitistas, así como ciertos cambios en la tradición cerámica generalizada que presagian los movimientos socioculturales del Clásico Tardío.

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APENDICE 1. GENERALIDADES TIPOLOGICAS: HALLAZGOS MUNDO PERDIDO Y GRUPO 6C-XVI

En base al análisis de los tiestos de los depósitos problemáticos PNT-019 y PNT-031, pueden extraerse algunas generalidades tipológicas que complementan la información obtenida para la fase Manik 2 de los subcomplejos funerario y de escondites. Aunque de contexto distinto, los depósitos problemáticos pertenece asimismo a contextos rituales del Clásico Temprano de Tikal, al considerarse como hallazgos sellados de función específica aun no explicada en los estudios de tierra baja, pero que forma parte de una larga tradición en el área Maya que comienza desde tiempos Preclásicos.

Mediante los subcomplejos considerados, puede formularse la diversidad tipológica y el comportamiento cerámico para Manik 2. En este análisis fueron considerados aquellos estudios cerámicos que han aportado considerable información para la clasificación del material de tierra baja como son R. Smith (1955), R. Smith y Gifford (1966), Adams (1971), Gifford (1976), Ball (1977), Sabloff (1975), Culbert (1979), y Forsyth (1983), a quienes citaremos en los casos más concretos. El análisis de las concentraciones cerámicas del grupo 6C-XVI fueron llevadas a cabo por Hermes (1984b). Las formas aparecen ilustradas en las Figuras 16 a 20.

Grupo Cerámico Triunfo

Los materiales cerámicos no engobados estan

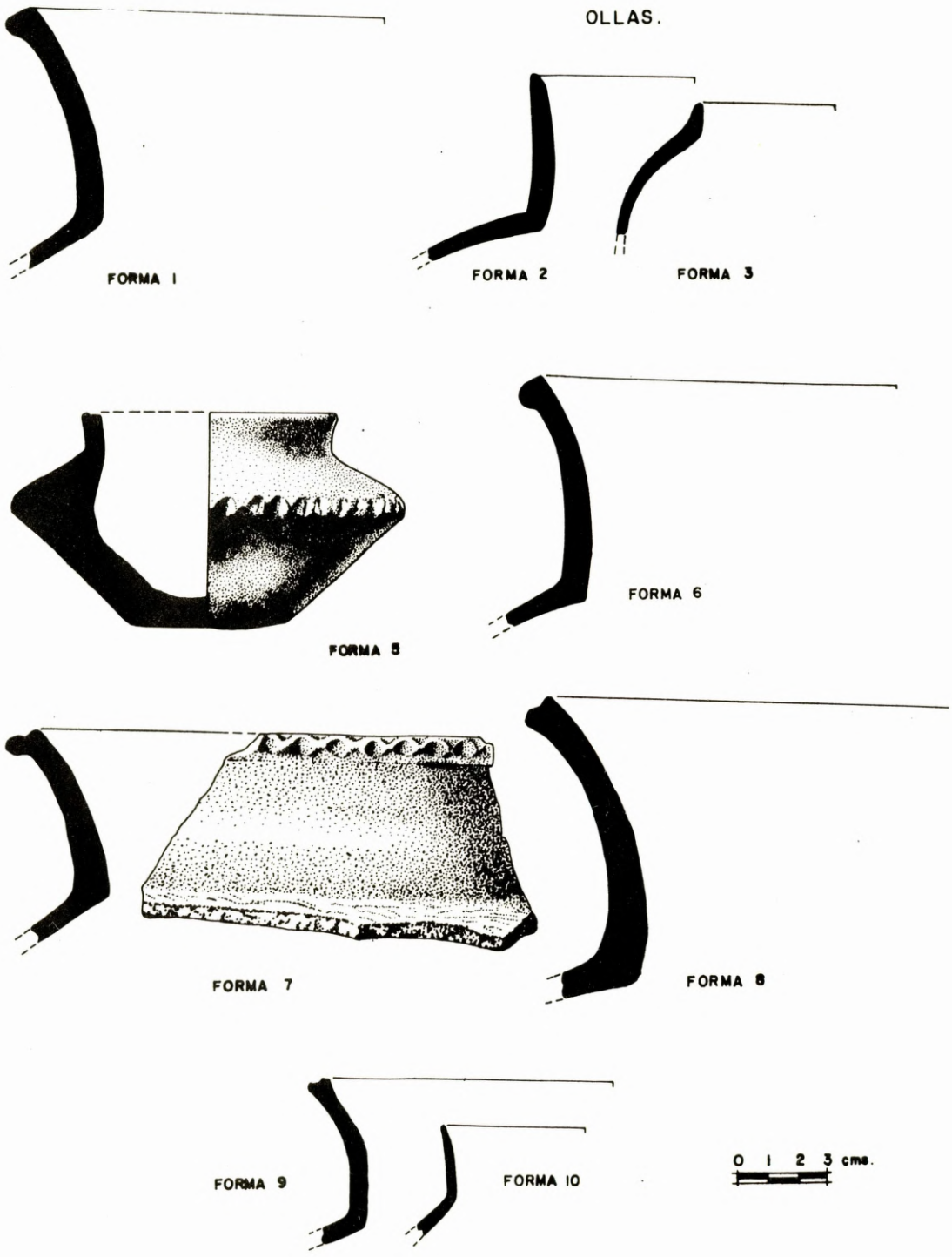

Fig. 16. Formas de cerámica: ollas.

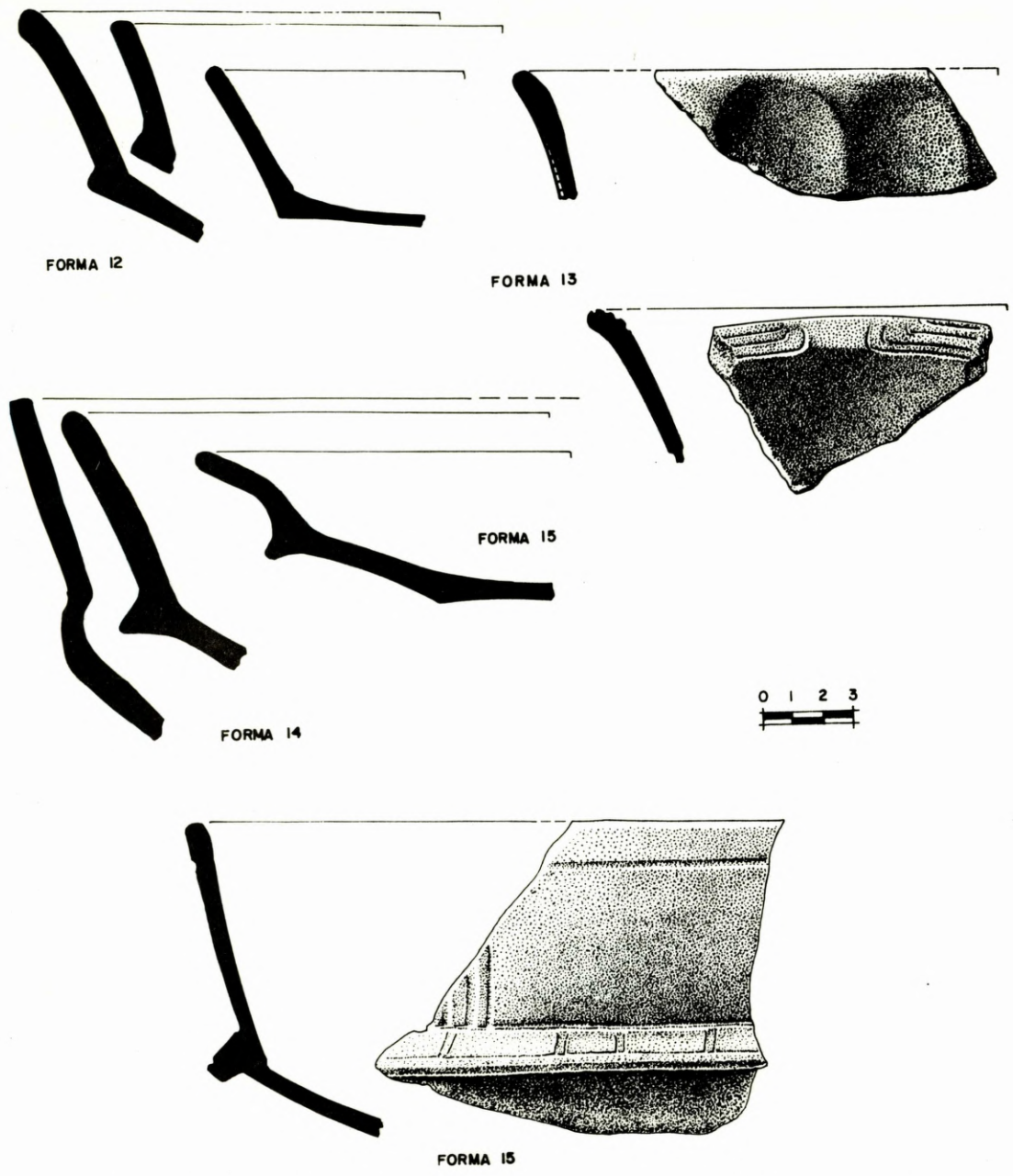

Fig. 17. Formas de cerámica: cuencos, platos, y fuentes.

representados por el "ware" Uaxactún Sin Engobe, integrado por el grupo cerámico Triunfo, con los tipos Quintal Sin Engobe, Triunfo Estriado, Candelario Aplicado, Cubierta Impreso, y Hoyo Punzonado.

El tipo Quintal Sin Engobe: variedad Quintal tiene predominio dentro del grupo cerámico Triunfo mediante ollas de cuello alto y boca ancha, con borde reforzado y acanaladura en el labio (forma 8), así como con cuellos medianos y en cuencos de lados recto-divergentes (forma

13); al presentar soporte, suelen ser cilíndricos huecos o de base pedestal (forma 41 y 45); hay asas de dos apoyos o zoomorfas (forma 48 y 50). Este tipo se presenta en el subcomplejo de escondites y su presumible abundancia en contextos de depósitos puede deberse más bien a problemas de muestreo generados al considerar exclusivamente bordes y bases.

El tipo Triunfo Estriado: variedad Triunfo no es numeroso (1.22%) debido a lo circunscrito de la selección de la muestra tomando bordes y bases como elemento clasificatorio primario; al revisar la muestra de cuerpos se sucede un drástico cambio alcanzando el 35% del material, con la consiguiente reducción del Quintal Sin Engobe.

En el tipo Triunfo Estriado son dominantes las ollas de cuello alto, boca ancha, y borde reforzado; en ocasiones el borde puede ser ondulado o inciso (forma 1, 6, 7, y 8); aparece en formas de picheles (forma 27). No fueron localizados soportes y asas. En algunos fragmentos muestra filete aplicado con impresión ungulada y en ocasiones, pequeñas aplicaciones. No fue localizado en los subcomplejos funerario y de escondites; se considera el tipo mayoritario a nivel doméstico para esta época.

Los tipos Candelario Aplicado y Cubierta Impreso del grupo cerámico Triunfo, integran un importante sector del subcomplejo de incensarios. Las implicaciones rituales de los incensarios conducen a que, hasta el momento, estos no se hayan localizado en los subcomplejos funerario y de escondites Manik 2 de Tikal. Ferree (1972:15) aclara que es posible que en entierros redepositados, los incensarios fueran incluidos en alguna ceremonia asociada. Los incensarios de Tikal integran un complejo específico que para el Clásico Temprano se conoce como Kataan, compuesto por dos subfases cuya división corresponde al inicio de Manik 2.

En la muestra de depósitos problemáticos, el tipo Candelario Aplicado: variedad Candelario esta representado solamente en el depósito problemático PNT-019 alcanzando un 4.39% del grupo Triunfo en incensarios de paredes recto-divergentes o tapaderas en forma de campana así como en vasijas con forma de tecomates (forma 22). No hubo soportes o asas.

El tipo Cubierta Impreso: variedad Cubierta se encontró escasamente en ambas concentraciones; pertenecen al subcomplejo de incensarios con forma indeterminada y se conoce un caso de olla de silueta compuesta (forma 5); no hubo soportes ni asas. Este tipo ha sido localizado solamente en Uaxactún y Tikal. El tipo Hoyo Punzonado del grupo cerámico Triunfo no se encontró en la muestra.

Cerámica del Clásico Temprano desde Mundo Perdido

Grupo Cerámico Aguila

El "ware" Petén Lustroso (glossy) es el conjunto dominante para las cerámicas engobadas de la zona central del área Maya; incluye los grupos cerámicos Aguila, Balanza, y Pucté; también un grupo no especificado integrado por tipos policromados. Forsyth (1983:66) aclara que originalmente la cerámica de color naranja fué separada en tres grupos distintos: uno de ellos, el grupo cerámico Aguila, incluia a los tipos monócromos; los otros dos, Actuncán y Dos Arroyos, estaban compuestos por tipos bícromos y polícromos sobre un fondo de color naranja (R. Smith y Gifford 1966:167-168). Este esquema fué aplicado a los materiales de Barton Ramie y Altar de Sacrificios.

Desde la publicación del estudio cerámico de Mayapán, R. Smith (1971) propuso un alineamiento distinto en que todos los tipos con base naranja, sean monócromos o polícromos, deben pertenecer a un solo conjunto, al grupo cerámico Aguila. Forsyth (1983) retoma este concepto para el análisis del material de Edzná, colocando en este grupo a los bícromos San Blas y Boleto, así como al tipo Dos Arroyos Naranja Polícromo. Solamente los policromados Caldero Ante y Yaloche Crema quedaron formando un grupo cerámico no especificado.

El grupo cerámico Aguila fué el más abundante en el material de los depósitos problemáticos discutidos, integrando un 48.39% del material en ambas concentraciones. Es un grupo cerámico fuertemente representado en los subcomplejos funerario y de escondites, aunque no mediante todos los tipos que le integran, pues esta circunscrito al Aguila Rojo-naranja. Además de este, el grupo cerámico Aguila incluye la variedad Rojo Mate y los tipos Pita Inciso y San Clemente Gubiado-Inciso; se formula un tipo no designado Naranja Estriado, y se consideran los tipos Dos Arroyos Naranja Polícromo, San Blas Rojo-sobre-naranja, y Boleto Negro-sobre-naranja.

El tipo Aguila Rojo-naranja: variedad Aguila alcanza altas frecuencias de 63% dentro de su grupo cerámico. Es abundante en toda la zona central del área Maya a excepción de Barton Ramie, en donde parece estar sustituido por el grupo cerámico Minanha (Gifford 1976:157); hacia la parte terminal del Clásico Temprano adquiere una tonalidad más rojiza, aunque en Tikal esta situación no es aún tan evidente como en el caso de Becán y su variedad Flamboyán (Ball 1977:41).

Las formas más usuales en este tipo son cuencos con lados redondeados, fuentes de base cóncava y lados rectos y fuentes de lados recto-divergentes (forma 16, 14, y 13), así como en menor cantidad, fuentes de pestaña basal, platos con lados rectos y en algunas ocasiones, fuentes con ángulo-Z (forma 15, 18, y 12); es relativamente abundante

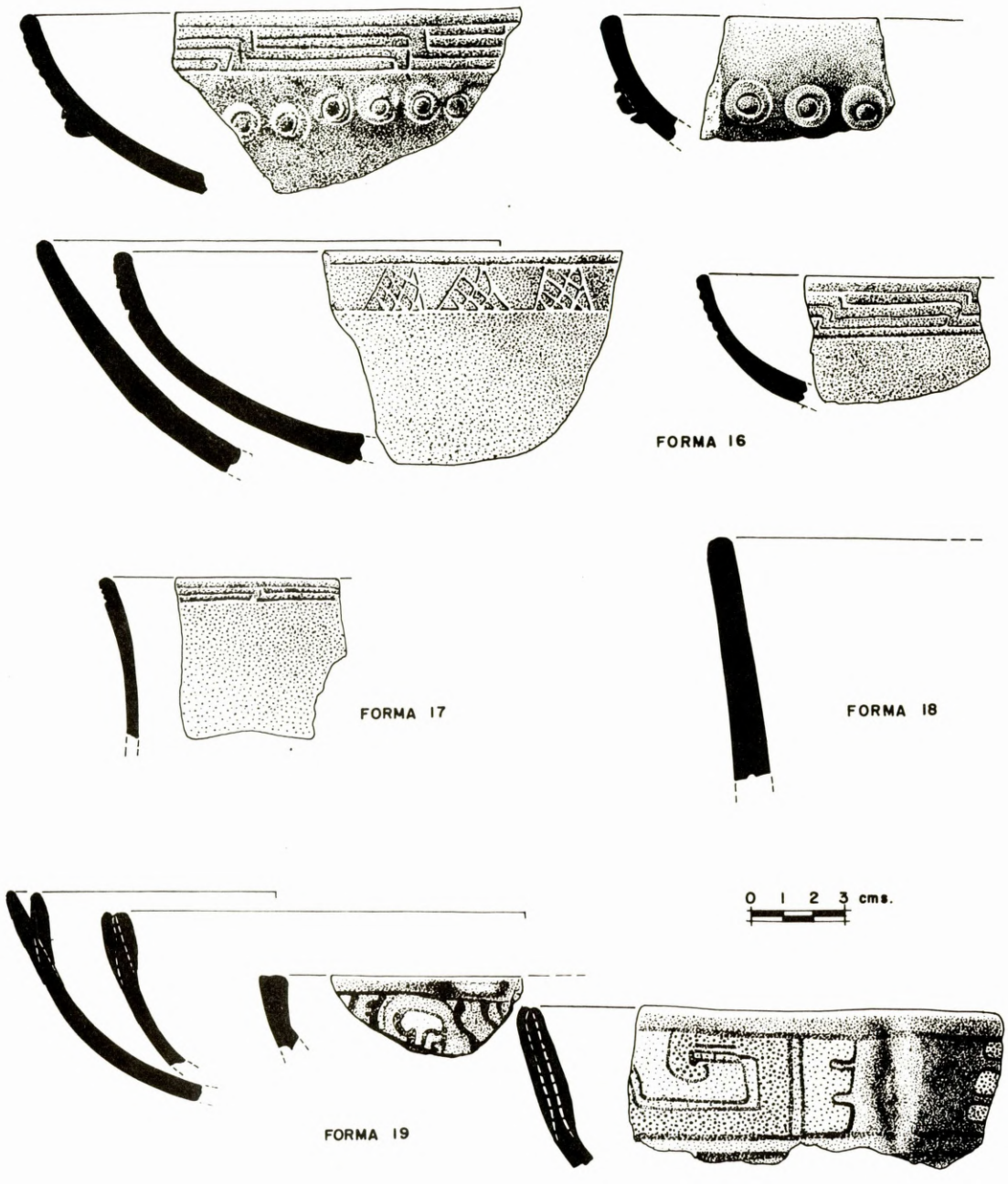

Fig. 18. Formas de cerámica: cuencos, platos, y fuentes.

en ollas de cuello medio y boca estrecha; en caso de presentar soportes estos son cilíndricos huecos, cónico truncados huecos, o sólidos y de botón (forma 41, 38, 40).

El Aguila Rojo-naranja: variedad Rojo Mate fue establecido por Culbert en el material de Tikal (1979:M-25) y no ha sido reportado en otros sitios; sus atributos principales son la superficie sin pulir o poco pulida,

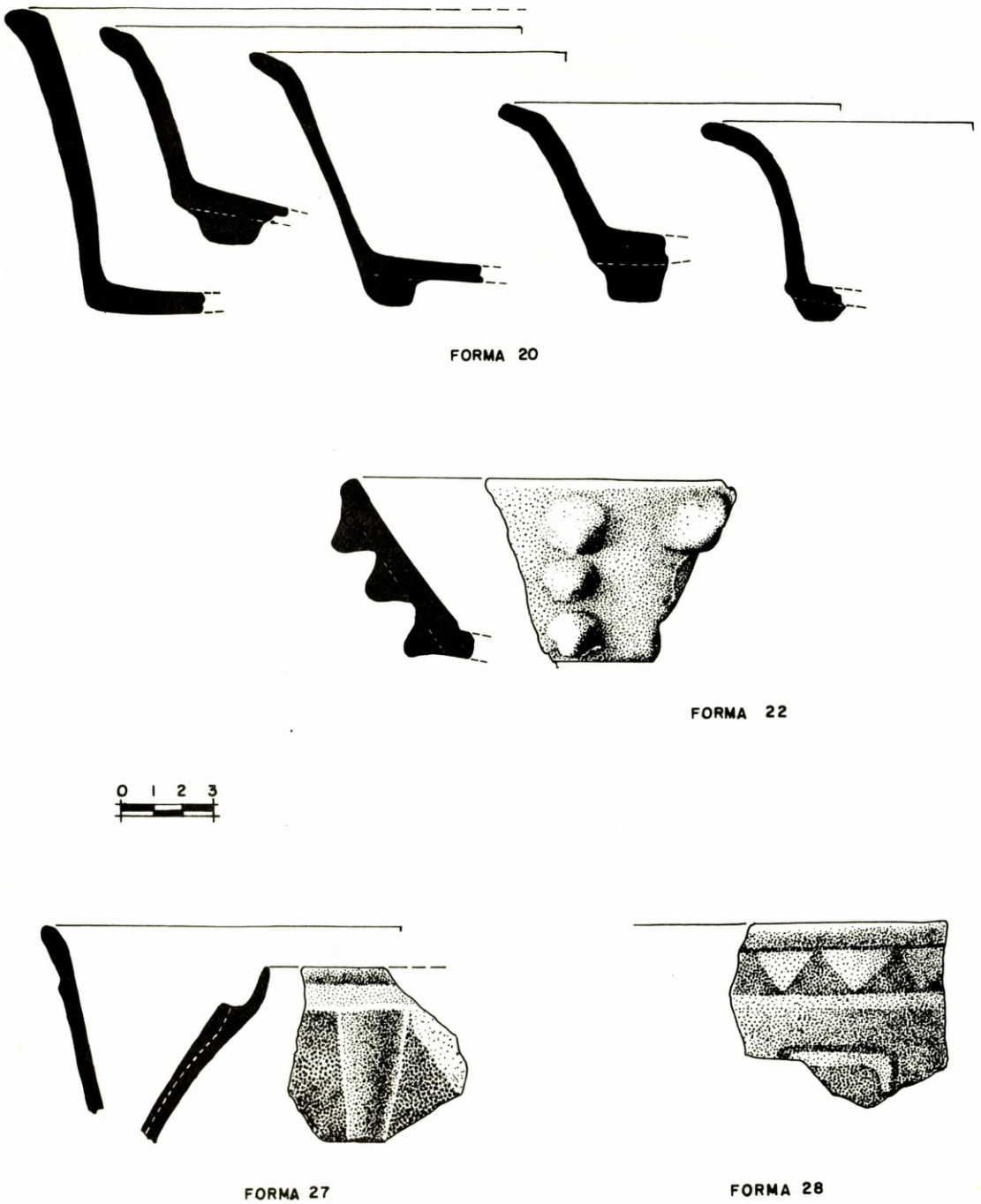

Fig. 19. Formas de cerámica: cuencos, platos, y fuentes.

observandose las partículas del desgrasante, siendo el engobe de color rojo mas intenso que el de la variedad Aguila. Es una variedad menor que alcanza el 1.89% dentro de su grupo en las concentraciones de material analizadas; sus formas se encuentran reducidas a fuentes con base

cóncava y lados rectos, picheles, y ollas de cuello medio y boca estrecha (forma 14, 27, y 2). No se le localizan soportes o asas. Es posible que los cuencos de paredes curvo-convergentes del escondite PNT-001 pertenezcan a esta variedad.

El tipo Pita Inciso: variedad Pita alcanza 1.25% dentro de su grupo; aparece en formas de cuencos de lados redondeados, platos con borde evertido, y fuentes con pestaña basal (forma 16, 20, y 15), así como en ollas de cuello medio y boca estrecha (forma 2); no hay soportes o asas. Aparentemente puede asignarse a la parte terminal de Manik 2 o plenamente asociado a la fase tardía del horizonte Tzakol, siendo entonces parte del subcomplejo funerario al presentarse en cilindros trípodes con tapadera; es un tipo paralelo al Lucha Inciso del grupo Balanza.

San Clemente Gubiado-inciso es otro tipo del grupo cerámico Aguila que pertenece a la fase tardía del complejo o Manik 3-A, siendo paralelo al Urita Gubiado-inciso del grupo Balanza, posiblemente el tipo resulte por diferencias de cocción; forma parte del subcomplejo funerario. Dentro de su grupo alcanza una frecuencia de menos de 1%.

En el material de los depósitos en referencia, Hermes (1984c) propone un tipo no designado Naranja Estriado: variedad no especificada integrante del grupo ceramico Aguila (forma 1.81%), en forma de ollas de cuello alto y boca ancha (forma 1), en el depósito PNT-031, por lo que puede asignarse a la parte terminal de la fase Manik 2; se caracteriza por tener el cuerpo cubierto por engobe naranja hasta la parte inferior del cuello, el cual no presenta engobe y está decorado mediante estrías. Puede tener una relación modal con el tipo Milpa Impreso, el cual presenta engobe rojo e impresiones (R. Smith y Gifford 1966:171; Culbert 1979:M-29).

El tipo Dos Arroyos Naranja Polícromo: variedad Dos Arroyos es el policromado mayoritario en los materiales de ambas concentraciones; alcanza 21% del grupo cerámico Aguila, siendo así el segundo en representatividad. Al considerar solamente el material policromado alcanza un 40% de dicho conjunto. Esta situación es generalizada en las tierras bajas centrales y no parece variar durante las fases del Clásico Temprano.

Se presenta mayoritariamente en fuentes con lados redondeados y con pestaña basal (forma 16 y 15), así como en platos de borde evertido y cuencos arriñonados; de manera minoritaria se localiza en ollas de cuello corto y paredes delgadas y ollas de cuello medio y boca estrecha (forma 10 y 12). Los soportes principales son cilíndricos huecos (forma 44). Se han localizado ejemplares con vertedera abierta y cerrada, así como asas de dos apoyos y

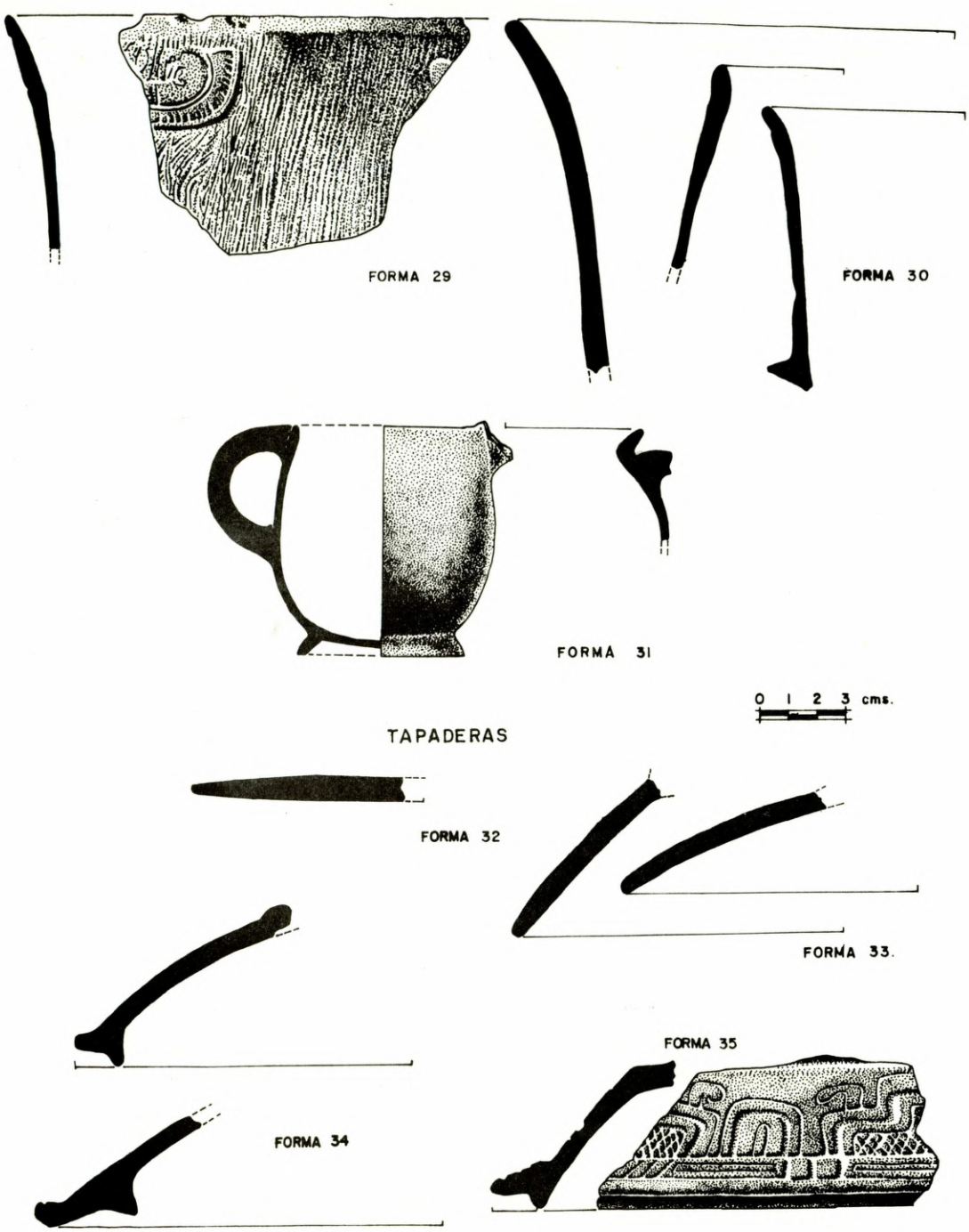

Fig. 20. Formas de cerámica: vasijas cilíndricas y tapaderas.

antropomorfas.

Siendo Dos Arroyos un tipo de amplia distribución resulta importante su ausencia en los subcomplejos funerario y de escondites en Mundo Perdido; pocas referencias se documenten para su presencia dentro de esos contextos en otros sitios, salvo Uaxactún; aparentemente esta situación sería explicable si la presencia de los tipos policromados mayoritarios Caldero Ante y Yaloche Crema, fuera excluyente de Dos Arroyos en los subcomplejos considerados. Estos tipos tienen el interior de color naranja pudiendo formar parte asimismo del grupo cerámico Aguila y ser paralelos a Dos Arroyos, con mayor detalle decorativo y técnicas de policromía que anulan el color naranja en el exterior, como fuera indicado originalmente (R. Smith y Gifford 1966). Sin embargo, es notable que los tipos policromados Caldero Ante y Yaloche Crema, de marcada afiliación al subcomplejo funerario, tambien esten presentes en depósitos problemáticos en proporción apreciable.

Dentro de los tipos bícromos del grupo cerámico Aguila, el San Blas Rojo-sobre-naranja: variedad San Blas es de carácter mayoritario con 17.31% dentro del grupo en el depósito problemático PNT-019; sin embargo, es poco frecuente dentro de la muestra del depósito problemático PNT-031, con 4.02%, lo cual refleja la posición de San Blas en la secuencia tipológica, como el bícromo utilizado en la parte temprana de Manik 2. No se conoce otra información de este tipo en Tikal; es importante mencionar que no forma parte de los subcomplejos funerario o de escondites, caso semejante al polícromo Dos Arroyos. No se le menciona en las secuencias de Seibal, Altar de Sacrificios, y Barton Ramie.

Dentro de los materiales bícromos y polícromos, San Blas sigue en representatividad a Dos Arroyos y supera ampliamente a Caldero Ante, tercero en proporción. Se le localiza mayoritariamente en cuencos de lados redondeados y cuencos arriñonados (forma 16 y 19); en menor cantidad en picheles y platos o fuentes de lados recto-divergentes (forma 27 y 13), también en ollas de cuello medio y boca estrecha, y ollas de cuello corto y paredes delgadas (forma 2 y 10). No fueron localizados soportes o asas.

El otro tipo bícromo del grupo cerámico Aguila es Boleto Negro-sobre-naranja: variedad Boleto; alcanza escasos 0.45% del material de ese grupo; lo mismo sucede dentro de los materiales policromados en donde tiene 1%. No se le conoce en los subcomplejos funerarios y de escondites. Presente en fuentes de pestaña basal (forma 15) y olla de cuello alto y boca ancha; no se le conocen soportes o asas. Fué definido en Barton Ramie como parte del grupo Actuncán por su decoración geométrica (Gifford 1976:173); no se lo menciona en Tikal, Seibal, o Becán.

Grupo Cerámico Balanza

El otro conjunto mayoritario del "ware" Petén Lustroso es el grupo cerámico Balanza, que engloba al 22.55% del material del depósito problemático PNT-019 y al 15.83% en el depósito problemático PNT-031. Este grupo forma parte de los subcomplejos funerario y de escondites, mediante la presencia de sus tipos componentes, Balanza Negro, Lucha Inciso, Urita Gubiado-inciso, Delirio Plano-relieve, Paradero Acanalado, Maroma Impreso, y Discordia Negro, en la secuencia del Clásico Temprano, enfatizandose hacia la parte terminal.

Siendo un grupo cerámico paralelo al Aguila, carece de tipos bícromos y polícromos debido a la coloración del engobe; sin embargo, resulta notable la aplicación de técnicas decorativas incisas, esgrafiadas, y de relieve efectuadas sobre la superficie de las vasijas, compensando así la diversidad decorativa de otros grupos mayores que incluyen tipos polícromos.

El tipo Balanza Negro: variedad Balanza alcanza un 80% dentro de su grupo en los materiales de los depósitos considerados. Se presenta en una amplia diversidad de formas, predominando los platos de borde evertido, cuencos con lados redondeados, y platos con lados curvo-divergentes (forma 20, 17, y 16); en menor cantidad en fuentes con pestaña basal, cuencos de base cóncava y lados rectos, y platos de paredes recto-divergentes (forma 14, 13, y 15). Abundan las ollas de cuello medio y boca estrecha, algunos casos de vasijas efígie (forma 2 y 4); son usuales los soportes predominando el cilíndrico hueco, cónico truncado, botón, y algunos soportes zoomorfos; hay un ejemplar de soporte rectangular sólido, vertederas de tipo abierto, asas de dos apoyos, y hay un caso antropomorfa.

Lucha Inciso: variedad Lucha, con 21.68% de su grupo en el depósito problemático PNT-019 y 10.96% en el depósito problemático PNT-031, es el segundo tipo más representativo del grupo cerámico Balanza; esta diferencia porcentual resulta inexplicable debido a que esta tradición incisa prosigue abundantemente hacia Manik 3-A. La forma mayoritaria es el cuenco de lados redondeados (forma 16); incluye fuentes con pestaña basal, platos de paredes recto-divergentes (forma 15 y 13), platos con borde evertido; no se documentaron ollas, soportes, asas, o vertederas. La forma de cilindro trípode fue percibida en algunos fragmentos de cuerpos de manera minoritaria.

El tipo Urita Gubiado-inciso: variedad Urita tiene una baja representación de 1.90% dentro del grupo Balanza en ambas concentraciones; se presenta mayoritariamente en fuentes con pestaña basal (forma 15) y cuencos de lados redondeados; no se conocieron soportes o asas; por la

posición cronológica de los hallazgos en Manik 2 solamente dos fragmentos de cuerpos representan cilindros trípodes.

Por varios fragmentos que representaron un solo ejemplar de vasija efígie del depósito problemático PNT-019 y varios cuerpos correspondientes a cuencos de lados redondeados fue documentado el tipo Maroma Impreso: variedad Maroma. Del tipo Paradero Acanalado: variedad Paradero, fueron localizados nueve fragmentos de cuerpos que representan vasijas cilíndricas procedentes del depósito problemático PNT-019. De los tipos integrantes del grupo Balanza no fue detectado Delirio Plano-relieve; varios de estos tipos son considerados importantes para la parte tardía del horizonte Tzakol.

Dentro del subcomplejo funerario de época Manik 2 en Mundo Perdido se documentaron dos picheles asignados al tipo Discordia Negro: variedad Discordia. Este tipo fué establecido en Uaxactún (R. Smith y Gifford 1966:171) como perteneciente al "ware" Negro Delgado. Culbert (1979:M-34) lo rechazó para los materiales de Tikal por haber sido definido mediante rasgos de paredes delgadas y la presencia de formas de pichel, considerando que se trata de ejemplares del grupo cerámico Balanza.

Hemos retomado el tipo Discordia no como integrante de un "ware" Negro Delgado, sino como un tipo específico del grupo cerámico Balanza suficientemente diferenciado en base a el interior y sectores del exterior, mientras que en la parte restante puede mostrar indicios de brochado. Ball (1977:34) para los ejemplares de Becán, aclara que el desgrasante es de calcita cristalina fina y que el grosor de las paredes es de escasos 0.2 cm, documentando formas de picheles con vertedera y base pedestal, adscritos a Chacsik temprano, relacionada a la fase media del horizonte Tzakol. En Mayapán se reportan adscritos al tipo Catzim Inciso.

Grupo Cerámico Pucté

El grupo cerámico Pucté es minoritario dentro de las cerámicas engobadas alcanzando un promedio del 4% de la muestra. Incluye los tipos Pucté Café, Santa Teresa Inciso, Chorro Acanalado, y un nuevo tipo Aplicado Impreso. En Becán, Ball (1977:24) considera que este grupo hace su aparición hasta la fase tardía del Clásico Temprano, es decir en Sabucán. Aparece representado en los subcomplejos funerario y de escondites.

El tipo Pucté Café: variedad Pucté es el mayoritario (75%) del grupo cerámico; las formas predominantes son cuencos con paredes redondeadas, platos con borde evertido, y platos con paredes recto-divergentes (forma 16, 15, y 17); no se conocieron soportes o asas. No aparece mencionado en el análisis de Culbert para Tikal, ni en los materiales de Seibal, Becán, y Altar de Sacrificios,

habiendo sido definido en Barton Ramie.

En la muestra del depósito problemático PNT-019, el tipo Chorro Acanalado: variedad Chorro está representado por un 4.66% dentro de su grupo cerámico exclusivamente en platos de paredes recto-divergentes (Forma 13); no se conocieron asas o soportes.

El tipo indeterminado Aplicado Impreso: variedad no especificado fué establecido por Hermes (1984c); se caracteriza por los atributos de Pucté Café pero con aplicaciones circulares en el sector medio del cuerpo e impresión sobre la aplicación. Este tipo, en la muestra del depósito problemático PNT-019, está reprsentado por cinco bordes de cuencos de lados redondeados (forma 16), es decir el 2.58% dentro del grupo cerámico Pucté, reforzado por nueve cuerpos del mismo contexto; no se conocieron asas o soportes.

Grupo Cerámico Polícromo No Especificado

Otro integrante del "ware" Petén Lustroso es el grupo cerámico Polícromo No Especificado, al cual se han agrupado diversos tipos que tienen fondo de color ante, crema, naranja, o gris, y que al momento no se han podido incluír en grupos cerámicos definidos. Los tipos que integran el grupo alcanzan un promedio de 7.27% dentro de la muestra general de los depósitos problemáticos PNT-019 y PNT-031, siendo por lo tanto el cuarto grupo en representatividad. Consiste de los tipos policromados Caldero Ante, Yaloche Crema, Moc Naranja, y Dos Aguadas Gris, así como del bícromo San Bartolo Rojo-sobre-ante y un tipo indeterminado Rojo-sobre-ante Inciso Aplicado.

El tipo Caldero Ante Polícromo: variedad Caldero, dentro del agrupamiento al que se ha asignado, representa el 69% del material en ambas concentraciones. Las formas mayoritarias corresponden al cuencos de lados redondeados y fuentes con pestaña basal, las que usualmente estan cubiertas con tapaderas cóncavas (forma 16 y 15); minoritariamente en cuencos arriñonados y platos con borde evertido (forma 19 y 20); fué localizado un soporte hemisférico hueco y un asa antropomorfa. Culbert en el material de Tikal concede que este tipo es idéntico al Dos Arroyos Naranja Polícromo en todos sus rasgos, salvo en el color base exterior, el cual varía desde un café muy pálido a un tono rosáceo; R. Smith y Gifford (1966) lo han asignado al grupo cerámico Dos Arroyos, actualmente parte del grupo cerámico Aguila. Forma parte del subcomplejo funerario.

Con una frecuencia del 15% dentro del grupo de policromados no especificados de ambas concentraciones, se encuentra el tipo Yaloche Crema Polícromo: variedad Yaloche, en formas de fuentes con pestaña basal,

generalmente cubiertas por tapaderas cóncavas (forma 15), picheles, cuencos de lados redondeados, y platos con borde evertido (forma 27, 16, y 20); se conocen cuatro casos de base pedestal y un soporte cónico truncado; no fueron localizadas asas.

El tipo se distingue por el engobe color crema con diseños en rojo y negro en el exterior y naranja en el interior; se considera difícil su diferenciación del Caldero Ante Polícromo por la variación del color base café claro a blanco, por lo que Yaloche Crema es asignable solamente a ejemplares con la superficie bien conservada. Un caso concreto puede ser la variación cromática del engobe aplicado al plato y tapadera de la vasija PNT-180 del entierro PNT-062 que de no haber conformado un mismo ejemplar podrían haberse asignado a distintos tipos.

Moc Naranja Polícromo: variedad Moc fué establecido en Tikal para ejemplares altamente pulidos de color base naranja brillante sobre el cual se aplican diseños en rojo y negro (Culbert 1979:M-33). Dentro del grupo de polícromos no especificados está representado en un 6.70% en ambas concentraciones; se asocia con fuentes de pestaña basal (forma 15); no se localizaron soportes o asas. No se ha reportado en otros sitios y no forma parte del subcomplejo funerario en Mundo Perdido.

Otro tipo policromado que no forma parte del subcomplejo funerario en Mundo Perdido es el Dos Aguadas Gris Polícromo: variedad Dos Aguadas, que aparece representado en el depósito problemático PNT-019 integrando un 7.45% del grupo policromado no especificado, en formas de fuentes con pestaña basal, cuencos con lados redondeados, ollas de cuello medio y boca estrecha, y ollas de cuello corto y paredes delgadas (forma 15, 16, 2, y 10); no se le conocieron soportes o asas. Fué establecido en Uaxactún y pudiera relacionarse con el tipo Sambula Negro-sobre-gris de Becán.

San Bartolo Rojo-sobre-ante: variedad San Bartolo no se ha localizado en otros sitios, salvo Tikal y Uaxactún, donde fuera establecido; no se le asigna una distribución temporal especfica ni forma parte del subcomplejo funerario en Mundo Perdido. En nuestra muestra alcanza una representatividad de 7.45% del grupo policromado no especificado del depósito problemático PNT-019, en forma de cuencos con lados redondeados y picheles; no se le conocen soportes o asas.

Hermes (1984c) estableció un tipo Indeterminado Rojo-sobre-ante Inciso Aplicado: variedad no especificada, para ejemplares con una banda roja sobre el labio y una serie de incisiones inclinadas y cruzadas en el exterior, así como aplicaciones circulares y punzonadas en la zona de unión del cuerpo y cuello, todo ello cubierto por un baño o

engobe delgado de color ante. Solamente se encuentra en los materiales del depósito problemático PNT-031 con 1.40% dentro del grupo de policromados no especificados, en forma de ollas de cuello corto y paredes delgadas (forma 10); puede estar relacionado al tipo San Bartolo Rojo-sobre-ante.

Otros Grupos Cerámicos

El "ware" Naranja Delgado, de clara filiación foránea, aparece representado debilmente (0.30%) en el material de las concentraciones analizadas; en el depósito problemático PNT-019 se conocieron solamente tres cuerpos sin decoración del tipo Ratones Naranja y en el depósito problemático PNT-031 se recuperaron tres bordes de cuencos con paredes curvo-divergentes (forma 17) del tipo Competencia Inciso: variedad Competencia. Estos materiales se asocian durante la fase Manik 3-A al subcomplejo funerario, por lo que en los entierros y escondites de Mundo Perdido durante Manik 2 no se documentan.

Varios tipos detectados en la secuencia tipológica del Clásico Temprano en Tikal no fueron encontrados en la muestra de bordes de los depósitos problemáticos del grupo 6C-XVI, aunque pueden estar incluídos en fragmentos de cuerpos. Por tratarse de un tipo representativo de la fase Manik 1 no fué localizado el tipo Dos Hermanos Rojo, mientras que por ser más característicos de la fase tardía o Manik 3, no se detectaron los tipos Maaz Rojo Estriado, Fama Ante, Batellos Negro-sobre-rojo, y Japon Resist. De los tipos establecidos por Culbert para Tikal, el Cochol Naranja Polícromo no apareció representado en ninguno de los contextos trabajados.

Dentro del inventario cerámico de la fase Manik 2, formando parte del subcomplejo funerario e incluídas en depósitos problemáticos, las vasijas miniatura se adecúan a la clasificación tipológica de tiestos y vasijas copletas, predominando las ollas, cuencos, vasos, y picheles, así como vasijas zoomorfas, siendo elaboradas en los grupos cerámicos Aguila: tipos Aguila Rojo-naranja, Pita Inciso, y Dos Arroyos Naranja Polícromo; grupo Balanza: tipos Balanza Negro, Lucha Inciso, y Discordia; grupo Pucté: tipos Pucté Café y Santa Teresa Inciso.

9

Living on the Edge: The Ceramic Sequence of Piedras Negras, Guatemala

George R. Holley

Recent research in the Maya lowlands has been characterized by increased interest in regional political and economic integration (Marcus 1976, 1983; Ashmore 1981; Adams and Jones 1981), a subject that has primarily lacked input from ceramic data. The following explanatory sketch represents an attempt to incorporate ceramic data into this research in conjunction with the gateway model developed in economic geography (Burghardt 1971). This model postulates that gateway cities develop at a border between an expanding cultural system and a frontier. It is argued that Piedras Negras, Guatemala (Figs. 1 and 2), a Classic Maya center on the Usumacinta River, was at one time in its history a gateway city for the transmission of Peten-based political and economic influence into the northwestern lowlands.

THE GATEWAY CITY MODEL

The gateway city model, as proposed in economic geography (Burghardt 1971), has been successfully applied to prehistoric communities in Mesoamerica (Hirth 1978) and has been suggested as a possible explanation for border phenomena in the Maya area (Ball 1980). Piedras Negras does possess some of the basic characteristics of a gateway community, as defined by Burghardt (1971): 1) Piedras Negras is located on a major route of transportation (the Usumacinta River); 2) It is located near a major physiographic division (the Usumacinta flood plain); 3) Piedras Negras is located near a cultural border, separating the Peten-influenced east from the northwest periphery; and 4) Piedras Negras experienced a rapid growth, suggestive of a boom town, in the Early Classic period.

However, categorizing Piedras Negras as a gateway

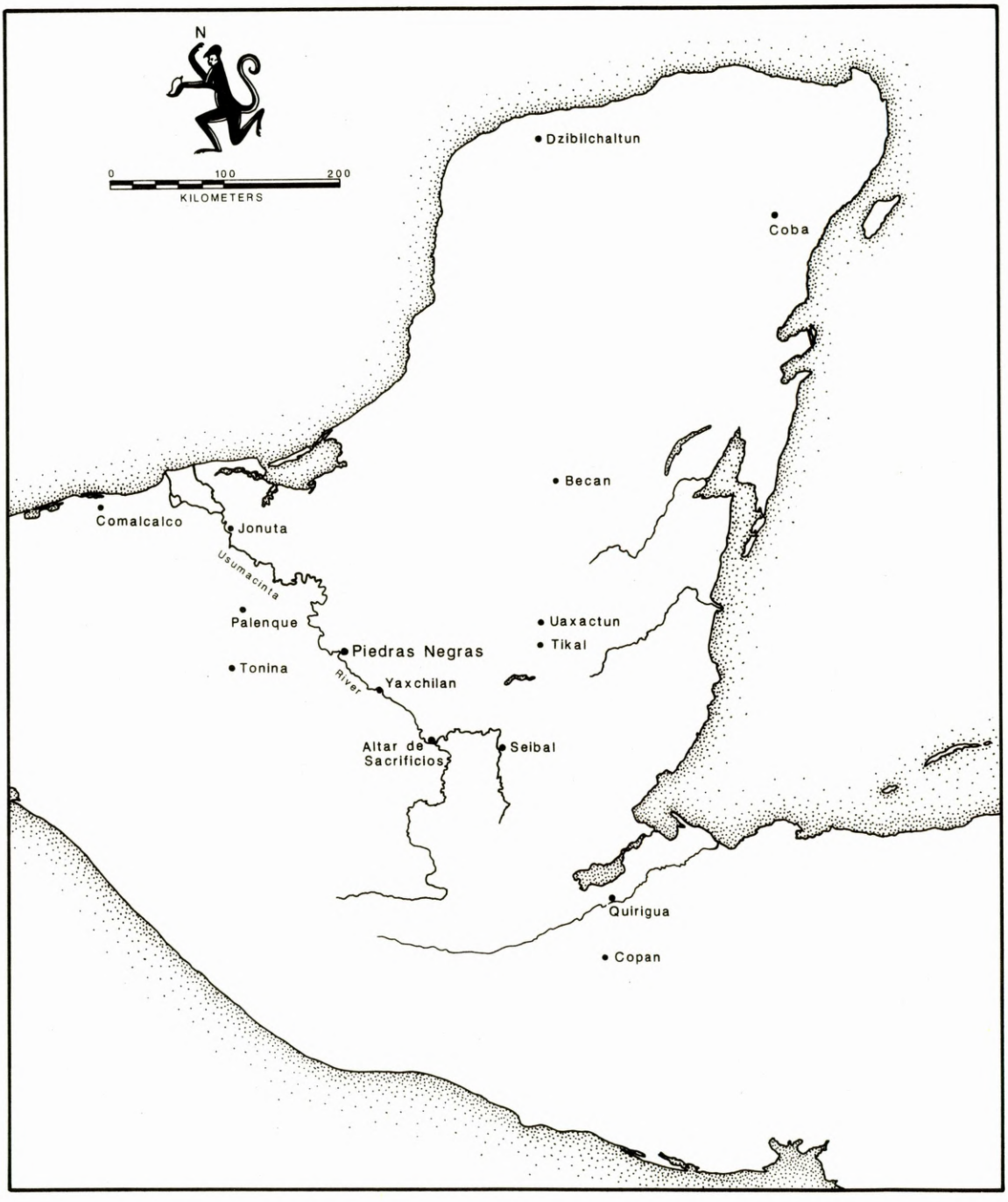

Fig. 1. Map of the Maya area.

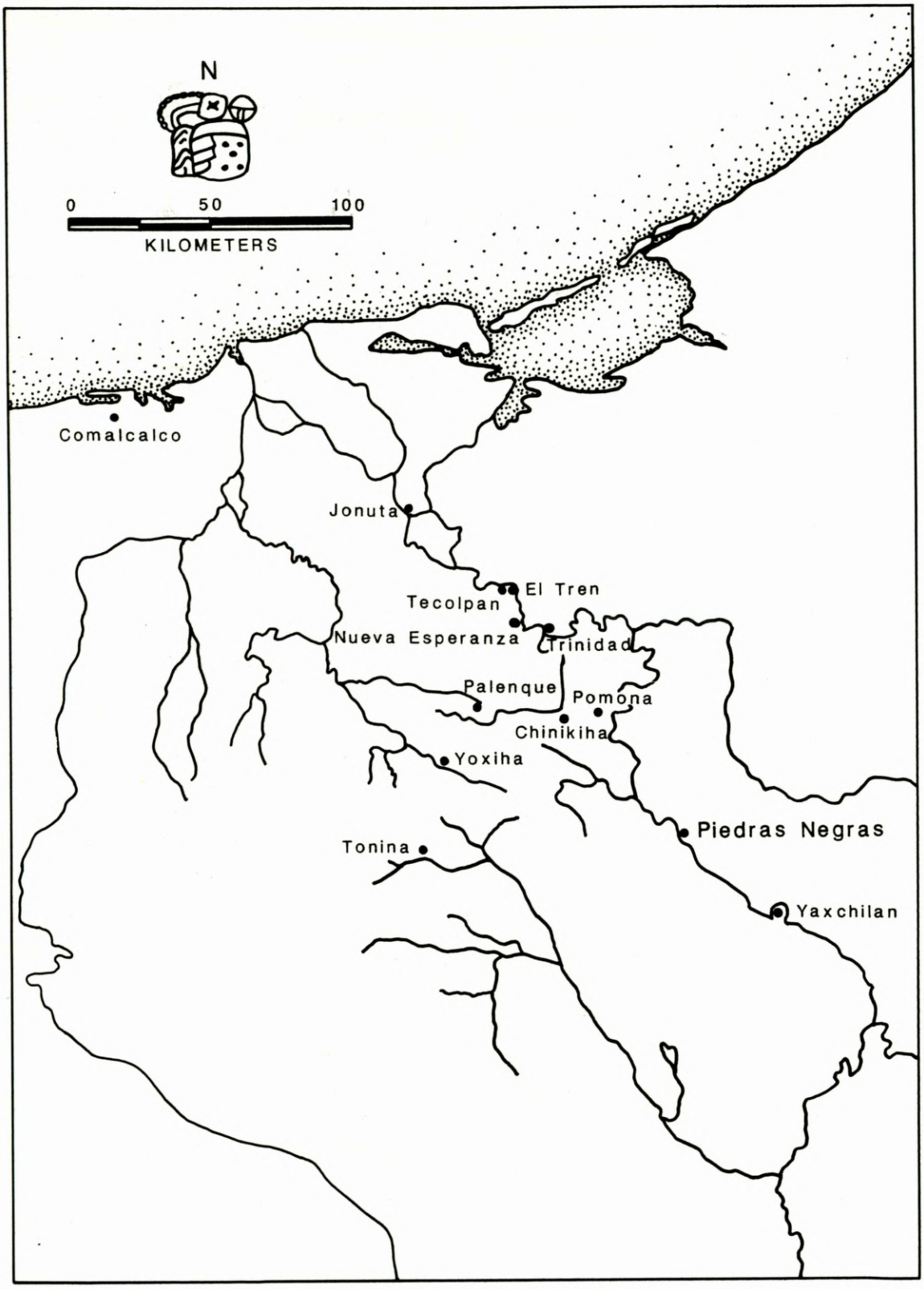

Fig. 2. Map of the northwestern lowlands and Usumacinta drainage.

city is a sterile exercise in typology if the dyamic history of such centers are ignored. The developmental scenario for gateway centers proposed by Burghardt (1971) is as follows: Gateways are formed at the edge of a moving frontier. As the front passes the gateway city, new gateways are formed farther out in the frontier, leaving the old gateway city to either develop into a central place or decline.

The concepts of a moving frontier and central place are critical to the gateway model and are well understood in Maya lowland archaeology. First, the concept of an expanding frontier, emanating from the Peten core to the frontier, appears substantiated by the down-the-line appearance of Peten-based traits. Second, there is a consensus among researchers that the distribution and hierarchical arrangement of Classic Maya centers approximates the criteria of the central place model (Hammond 1974; Marcus 1976).

Gateways are connected to the frontier in a dendritic pattern, with frontier settlements oriented to the gateway city but not necessarily to each other (Hirth 1978:37-38). Gateway cities are the conduit between the established cultural and economic order and the frontier. This differs from the central place pattern, wherein a central place is linked in a dendritic network within the local orbit and also interacts horizontally with other central places.

Material correlates bridging archaeological data with the geographic gateway model are not formalized. The gateway city model lacks the integration of style or culture, which can aid in identifying the social relationships between the cultural core, the gateway city, and the frontier. I have culled information from Piedras Negras and the northwestern lowlands (Fig. 2), based primarily on ceramic materials collected by Robert L. Rands in the Palenque Region Ceramic Survey Project, to construct a model that corresponds in general terms with the developmental scenario for the gateway city. The model is as follows:

1.) Because gateways are new settlements or settlements evolving into a new economic level, it follows that these centers should be dependent upon the older centers for knowledge and innovation whether in the form of diffusion or direct importation. It is expected that the ceramic assemblage and other stylistic media should be imitative of the core standards.

2.) Gateway cities should in turn export their ideas, translated from the older cities, to the frontier. This is presumed to follow the dendritic network of information and goods transferral.

3.) As new gateways are spawned on the frontier, repeating the first two stages, the former gateway can either develop into a central place or retrogress into a smaller, less important center. If the course of evolution is toward a central place there should be a marked increase in the size and diversity of the center, ushering in a potential for an elaboration of styles. In essence, the center becomes innovative and dependent to a greater extent on the network of smaller communities in the local orbit and with other central places.

The ceramic linkages to the gateway model involve the identification of the spatial dimensions of technological and stylistic traditions and the presence of imported pottery. At present the interpretation of spatial relationships between and within stylistic traditions is based on the ceramic sphere concept (Willey, Culbert, and Adams 1967). Sites sharing a major proportion of types and modes are assumed to be participating in the same ceramic sphere and probably interacting to some degree. Type and modal comparisons are used in this research as a barometer of possible contact. Quantification of ceramic interaction remains poorly developed in Maya research.

The identification of imported pottery, on the other hand, is more explicit. Although definite statements are not possible at the present for Piedras Negras, a provisional assessment is possible (Holley 1983). Pottery presumed to be imported was identified by two criteria: paste color and temper or inclusions. On the basis of the criterion of abundance (Bishop, Rands, and Holley 1982:301), local pottery was distinguished as that tempered with crushed carbonate rock and a pink to red paste color. More than 90% of the pottery recovered from Piedras Negras fit these criteria. Non-local pottery was identified by ash, mica, or sand inclusions, and fine paste. Carbonate temper may also occur with some of these categories. Paste colors are diverse but primarily yellow or brown and not the local (i.e., red or pink) Piedras Negras color range. Exotic pastes are associated with types and modes that may be either foreign or similar to Piedras Negras standards.

The relative frequency of imported pottery is assumed to be a barometer of contacts specified in the gateway model. In the first stage, imported or imitated pottery presumably derives from the cultural core and is exported to the frontier in the second stage. For the third stage, imported pottery should derive from the local orbit and diverse sources as a central place function is attained.

PIEDRAS NEGRAS AS A BORDER

Critical in the formation of a gateway city is the

presence of a physiographic as well as a cultural border. When considered within an array of cultural traits that originate in Peten, Piedras Negras is the northwesternmost center to display strong affinities with the Peten core. Piedras Negras is also the last center on the Usumacinta River to participate fully in the stelae cult, perhaps to an extent that might be construed as aberrant. Furthermore, in contrast to the east (Adams and Jones 1981), northwestern centers (Piedras Negras, Palenque, Tonina, and Comalcalco) are widely spaced, suggesting a frontier situation. In spite of these differences, these major centers are conversant with the Maya hieroglyphic and calendrical system and are considered part of the southern Maya lowlands. The ceramic data, however, provide the best evidence of a cultural border.

In ceramic terms, the major trends at Piedras Negras are approximated by a Peten-based Classic sequence (Smith 1955). This template cannot be uniformly applied to sites farther northwest, suggesting that Piedras Negras lies at the border between the Peten-influenced east and the stylistically divergent northwestern lowlands (Rands 1969). There are few ceramic type correspondences between Piedras Negras and the northwest; differences exist at many levels of ceramic production. The following traits distinguish Piedras Negras, and to some extent Peten from the northwestern lowlands (see Rands, this volume, for an exposition of the northwestern lowland material).

1.) Paste diversity. In contrast to the singular emphasis on carbonate temper at Piedras Negras, most northwestern sites display a greater range of paste recipes, which cannot always be attributed to exchange.

2.) Relative thickness of the vessel wall. Unlike Piedras Negras, where there is a dichotomy between thin walled serving ware and thick walled utility ware, northwestern potters did not uniformly observe this Classic Maya dichotomy. Typically, there is an apparent blending of shapes between the serving ware and utility ware. Furthermore, most vessels manufactured in the northwest are usually thinner walled than those manufactured at Piedras Negras.

3.) Jar morphology. Piedras Negras jars, both slipped and unslipped, are decidedly longer necked than most examples from the northwest. Jars with the same morphology as those of the northwest, that is, a shorter neck relative to the orifice diameter, occur at Piedras Negras during the Late Classic only as imports or imitations of northwestern standards (Fig. 41).

4.) Basin elaboration. At Piedras Negras utility basins are generally of a simple shape, rounded to incurved, with thickened but unelaborated rims. In the

northwest, shouldered shapes appear as well as elaborations of the basin rim (Rands 1969: Fig. 11-13).

5.) Striated jars. Striated jars are ubiquitous at Piedras Negras but essentially absent to uncommon at sites in the Palenque environs. Sites closer to Piedras Negras, such as Chinikiha and Yoxiha, participate in the striation tradition, as do the Usumacinta sites of Trinidad and Jonuta-Tecolpan. As discussed later, these sites and regions are also marked by an Early Classic occupation.

6.) Surface treatment. Piedras Negras is firmly ensconced in the Classic Maya tradition of slipping, priming, and polychrome painting. Although weathering of sherds is pronounced at Palenque, it is clear that this slipping tradition was never a significant component of the ceramic craft (Rands 1974). In contrast, sites closer to Piedras Negras, i.e., those in the Usumacinta flood plains and Tonina, are all participants in the polychrome tradition. Again, the presence of an Early Classic Tzakol tradition may fundamentally shape the ceramic history of a site in the northwestern periphery.

These comparisons are not exclusive for any one site or any time period, although Palenque appears the most different. The magnitude of dissimilarity does not constitute a clinal variation, stretching from Peten to the northwest, but rather marks a fundamental cleavage in the craft of pottery making, separating the northwest from the east. In spite of local differences, when examined from a northwestern perspective, Piedras Negras is convincingly allied with Peten vogues.

CERAMIC SEQUENCE

Even weighing sampling problems, Piedras Negras is an insignificant community from Mamom in the Preclassic into early Early Classic times. Piedras Negras does not grow significantly until the beginning of the Naba ceramic complex (AD 450-550/600), as represented by the widespread occurrence of Naba sherds and the appearance of monumental architecture and sculpture. The Naba ceramic complex (Fig. 3a-f) is a full-fledged member of the Tzakol ceramic sphere, sharing most types with Peten (Smith 1955). Naba represents a "stripped-down" version of Tzakol with Peten Gloss ware, very simple polychrome designs, and tripod cylinders. In spite of the strong Peten character to the Naba complex, only a few specimens have been assuredly identified as non-local.

Local differences that are also shared with sites close to Piedras Negras in the northwestern lowlands include basal flange tripod dishes, molded rim bowls, and bolstered rim utility jars and basins. Bolstered rim,

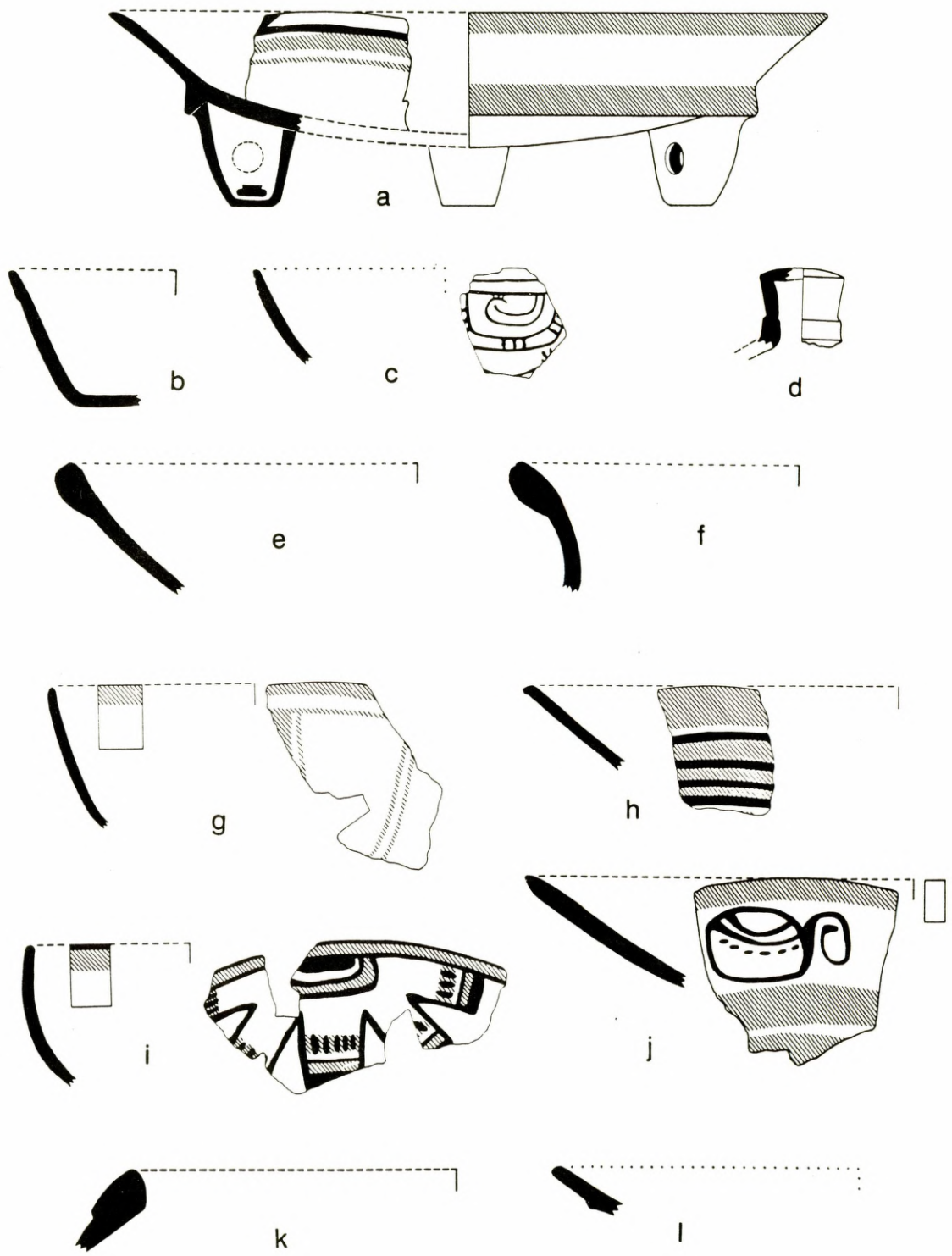

Fig. 3. Naba (a-f) and Balche (g-l). a, g-j, orange-based slip. Red is diagonal lines trending right. Scale 1/3 for all line drawings.

unslipped basins (Fig. 3e) are not common in the Peten and probably represent an indigenous tradition, affiliated with other Western sites (Rands 1967: Fig. 9c). Piedras Negras-like pottery is definitely exported to Palenque, creating a Tzakol veneer (Rands 1974:61, Fig. 6d-h, i) on an aberrant Early Classic Motiepa complex.

During Naba times, Piedras Negras appears to fit the conditions of a newly established gateway center, rising from an insignificant site to a significant center on the Usumacinta with a strong Peten orientation. Older centers to the east, such as Yaxchilan, were probably on the way to becoming central places, whereas the northwest, as exemplified by Palenque, constituted the frontier. Yaxchilan is presumed to be an older center on the basis of epigraphic dating. Given the late dating of Naba, it is possible that the evolution of Piedras Negras to a gateway city may have been intertwined with the Teotihuacan-Kaminaljuyu-Tikal axis. Tripod cylinders are present in the northwest but not at Palenque.

Missing from this scenario are events relating to the early period of the Early Classic. As noted above, Piedras Negras is an essentially late participant in the Tzakol expansion, with only a trace of an early Early Classic presence at the site. In the northwest periphery, early Tzakol is also uncommon to rare, with examples deriving from Tonina (Becquelin and Baudez 1979:233), Yoxiha (Blom and La Farge 1926), and Chinikiha (Rands 1967: Fig. 9d; 1977). In the Usumacinta flood plain there is perhaps an even earlier expression of the Early Classic, represented at El Tren and Nueva Esperanza. This pottery suggests that there was an earlier expansion into the northwest, before Piedras Negras was a gateway city. One possible gateway center for this inspiration could be Yaxchilan, although the Early Classic ceramics from the site have not been adequately reported for comparison.

The Balche ceramic complex (AD 550/600-630) represents an elaboration of Naba traits with the addition of new traits (Fig. 3g-l). The transitional nature of the pottery and the lack of large, pure deposits imparts an enigmatic character to this complex. Balche also coincides with the equally enigmatic hiatus of the Classic Maya (Willey 1974). Presumably, hieratic construction is discontinued for a brief period of time at most centers. Balche ceramics exhibit traits that are symptomatic of the Tzakol-Tepeu transition in the Peten with the flange-to-ridge diminution (Fig. 3l) and the proliferation of polychrome bowls. A Balche diagnostic is specular hematite paint (Fig. 3g), which is associated typically with matte slips. Peten Gloss ware is uncommon and confined primarily to Saxche Orange Polychrome (Fig. 3i, j). Notably, ring bases, everted rims, buff-cream primers, and resist painting appear for the first time.

But unlike Peten and other eastern sites, such as Altar de Sacrificios and Seibal, the flange-to-ridge diminution marks the effective termination of the tradition, further setting off Piedras Negras from the east. Also, the popularity of specular hematite paint points to a divergence from Peten standards. Imported pottery increases slightly during Balche but is not a diagnostic of the complex. Piedras Negras is apparently still influential in the northwest as evident by the importation and local imitation of specular hematite-painted bowls at Palenque and Trinidad.

Ceramics of the succeeding Yaxche complex (AD 630-730) are indicative of a viable, long-lasting tradition at Piedras Negras (Fig. 4a-g). Large scale architectural construction and population size probably reach a peak near the end of the complex. Also, the first use of the corbelled vault, the final Classic hallmark emanating from the Peten core to appear at Piedras Negras, coincides with the beginning of the Yaxche complex.

Yaxche is divided into two facets that approximate in modal traits the Tepeu 1 and 2 division at Uaxactun (Smith 1955). The emphasis on multiple resist painting is so pervasive (Fig. 4a, b) that developmental trends in the orange polychrome types are difficult to recognize on individual specimens. The resist types are brilliant, though monotonous, examples of a divergence from Peten. Cream primers are ubiquitous and even appear under red slips on utility basins and under smudged slips. Non-gloss red slips are popular, although gloss ware continues in resist and monochrome orange and brown slips. The shift initiated during Balche from the beveled rim, tripod dish to the everted rim, ring based dish is completed by Yaxche. Imported pottery is present in notable yet insignificant numbers when compared with earlier complexes. This pottery is linked to styles typical of Piedras Negras, the northwest and presently undefined traditions.

The resist tradition at Piedras Negras is strongly affiliated with Yaxchilan (Boucher 1980) and Altar de Sacrificios (Adams 1971) to the east, with the Campeche interior at Becan (Ball 1977) to the north, and with Usumacinta River sites, such as Trinidad (Rands 1969), to the north and west. This widespread distribution of resist painting suggests that Piedras Negras is at the forefront of a circum-Peten experimentation and not on a border between a frontier and core. Arguably, the constellation of ceramic and non-ceramic traits that crystallize in Yaxche times are indicative of Piedras Negras attaining a measure of independence, growth, and innovation, which in this case is interpreted as attaining the role of a central place.

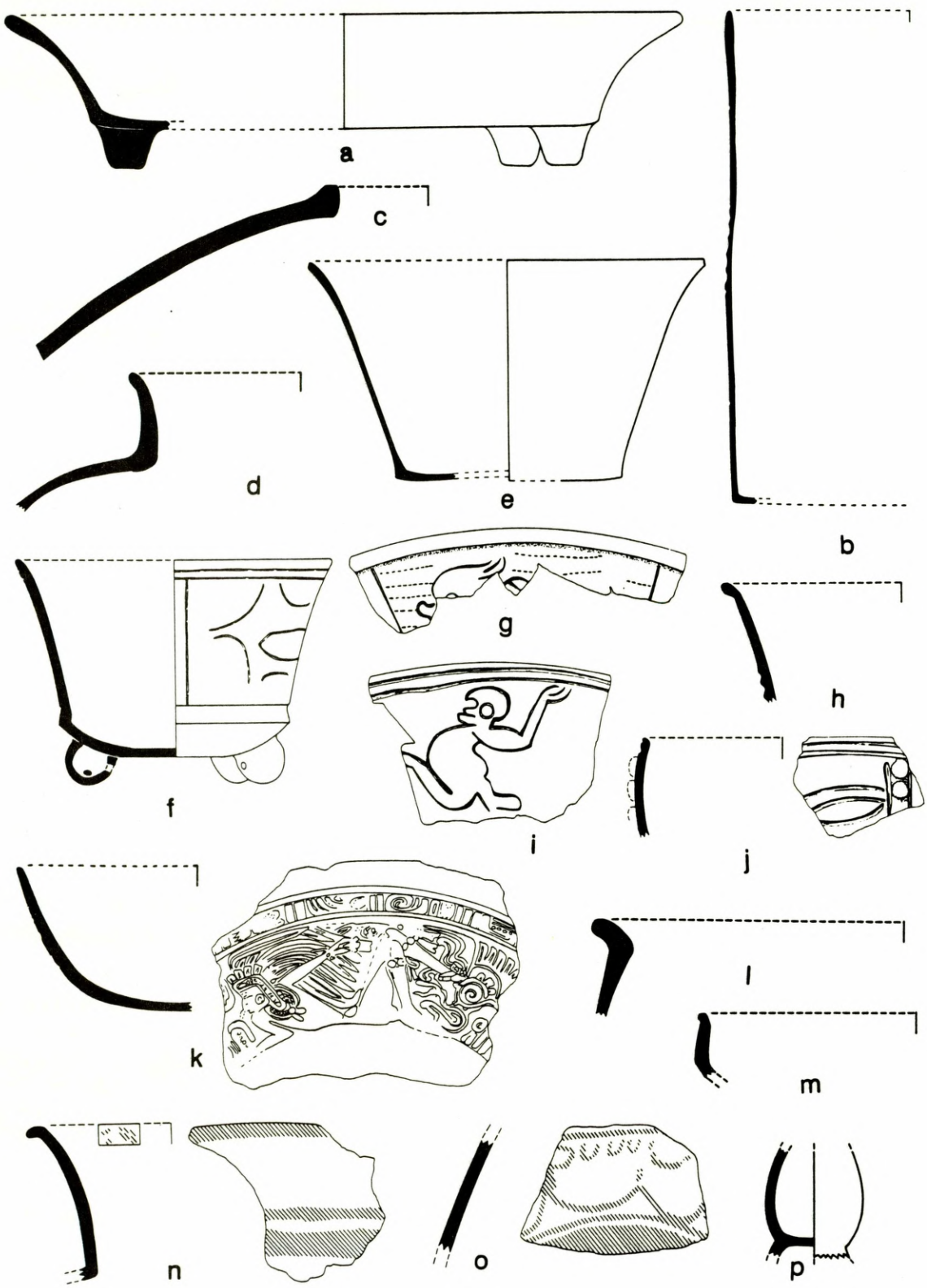

Fig. 4. Yaxche (a-g) and Chacalhaaz (h-n). d, orange slipped; n, red-on-cream; l, m, imports.

At approximately the same time as the Yaxche ceramic complex, Palenque experiences a ceramic and architectural vigor during the Otolum ceramic complex, as exemplified by the elaboration of the everted rim dish and construction activities associated with the reign of Pacal (Rands 1974). Palenque is clearly a boom town at this time. The everted rim dishes are exported or imitated throughout most of the northwestern lowlands (Rands 1967: Fig. 11d; 1969:29; Rands and Bishop 1980). Palenque also appears to be importing less pottery at this time than during earlier Motiepa or later Murcielagos times (Rands and Bishop 1980). This situation at Palenque fits the implications of the gateway model, with the oscillation between exporting and importing pottery tied to its evolution from a gateway to a central place. The gradual shift toward the dominance of the everted rim mode for dishes at Piedras Negras (Fig. 4a) may reflect the vigor of this expansion.

The seventh century AD was a time of dramatic change in the northwestern periphery. Palenque evolved from a site with little influence to one of paramount importance, while the relative role of Piedras Negras waned. That there was some form of competition between the two sites appears likely, with Palenque assuming the role of a gateway city and Piedras Negras shifting to a role of a central place. The other northwestern sites, Tonina and Comalcalco, probably develop into important centers somewhat later; interpretations of their relative status are not possible at the present. Judging by the polychrome data (Becquelin and Baudez 1979), Tonina may have emerged as a significant center slightly later in time. The major occupation of Comalcalco (Peniche 1973) is much later in time (beginning around AD 800) and is questionable regarding its affiliation to Classic Maya culture.

The eventual cessation of elite activities at Piedras Negras, as opposed to its abandonment, occurs at the close of the Chacalhaaz ceramic complex at approximately AD 830. The latest monument date of AD 795 probably does not mark the termination of elite activities; I believe that some of the insecurely-placed stelae are somewhat later. Early facet Chacalhaaz (Fig. 4h-n) deposits are found on the surface and in well-sealed fill, while late facet (Fig. 5a-j) deposits are confined to on-floor contexts at the Acropolis and rarely occur in fill. During late facet Chacalhaaz there was a decline in population and hieratic functions, which resembles the conditions described for Tikal in Eznab times (Culbert 1973). The interpretation of events leading to the collapse of Piedras Negras is not resolved. A Chacalhaaz diagnostic is the red bar motif on the exterior of everted rim tripod dishes (Fig. 4h). As befitting a Tepeu 2 dating, ceramic decoration reached the apogee of variation and skill in execution. Resist painting was phased out

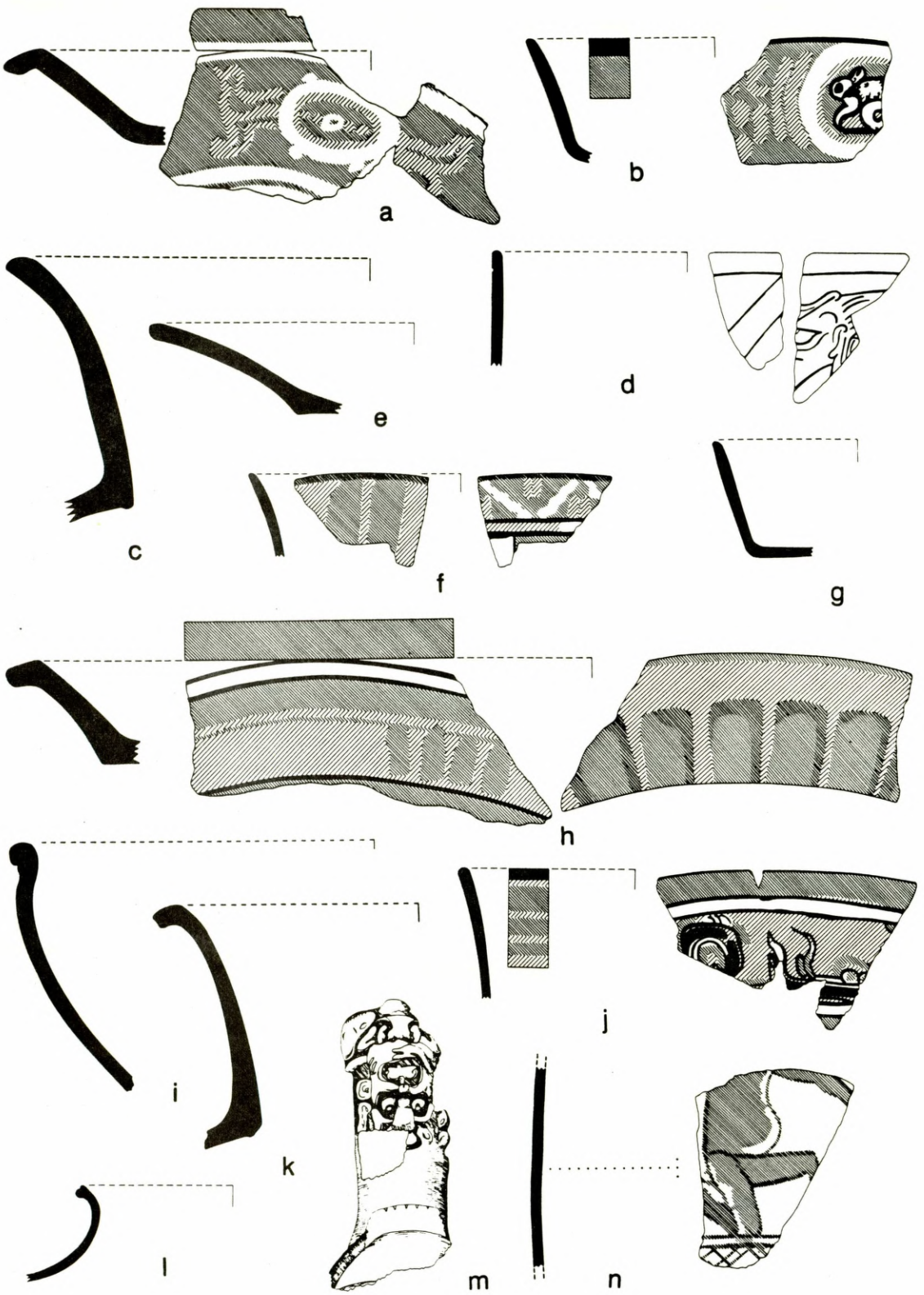

Fig. 5. Late facet Chacalhaaz (a-e), Tamay subcomplex (f-j) and Kumche (k-p).

and replaced by positive painting. Gloss slips are also infrequent. The painted monkey figure (Fig. 4n), in contrast to the human figure, is decidedly more common. This emphasis is problematical but not foreign to the northwest, as the depiction of the monkey is a popular motif for pottery and figurines before the collapse of the Classic Maya culture.

Imported pottery increases in frequency throughout the span of the Chacalhaaz complex and is heavily represented in the spatially-restricted, late facet deposits. In the early facet, imported pottery includes both foreign (Fig. 4l, m) and local styles, whereas by the late facet the Tamay subcomplex (Fig. 5f-j) accounts for the bulk of the exotics. Tamay pottery is characterized by fine paste, plastic decorated serving vessels and is related to, yet differs from, the Fine Gray Chablekal group at Jonuta-Tecolpan (Berlin 1956), coastal Campeche, Dzibilchaltun, and Coba. Similarities are greatest with pottery from Palenque and other sites closer to Piedras Negras, especially at Chinikiha, Pomona, and Yoxiha. Tamay pottery is also found in smaller quantities at Tonina (Bequelin and Baudez 1979), Yaxchilan (Boucher 1980), and Altar de Sacrificios (Adams 1971: Fig. 32b, upper right and lower).

Local Chacalhaaz pottery of the late facet (Fig. 5a-e) is sufficiently different from the early facet and may warrant a separate complex designation. Polychrome painting, cream primers, gloss slips, and everted rims are uncommon in the late facet. Matte monochrome slips dominate along with a host of new and exotic shapes such as beakers, open-spouted bowls, medial-fluted cylinders and neckless, striated jars. The red bar motif, however, is still present.

Modal correspondences between Piedras Negras and the east are indicated at least for the early facet, however it is not known if these similarities reflect a common ancestry or direct contacts. This is particularly apparent for the red bar motif, which is very widespread at this time. Altar de Sacrificios (Adams 1971:133) and Yaxchilan are both influenced by the same western-based stimulus affecting Piedras Negras, although not to the extent witnessed at Piedras Negras. There are also linkages with Palenque at this time, as evident in modal similarities, Piedras Negras-like imports, and the sharing of the Tamay subcomplex.

The imported Tamay subcomplex derives from a vigorous style zone lying somewhere between Piedras Negras and Palenque, which has ties to sites on the Usumacinta flood plain and coastal Yucatan. Whether this style is associated with another gateway situation or an intrusion is unknown. However, if a new gateway city is developing

in the northwest, it is not allied to Peten. Relationships with the elusive Putun may be indicated, although this contradicts the often cited correlation between the later Fine Orange-Fine Gray ceramic groups and the Putun (Thompson 1970; Sabloff 1975:239). Excluding the use of fine paste, the Tamay style bears little affinity to these later Fine Paste groups. The Tamay style effectively terminates at the same time Piedras Negras and Palenque collapse.

Piedras Negras was a viable central place at the beginning of the Chacalhaaz ceramic complex. The situation at Palenque during this period covers the latter part of the Murcielagos and all of the Balunte complexes. During Murcielagos, Palenque shifts away from the exporting phase, as a gateway city, to a central place, as witnessed by the importation of pottery and the florescence in the relative amount of architectural construction (Rands 1973, 1974:66). During the Balunte phase, imports continue but are primarily related to Tamay-like styles.

The Terminal Classic Kumche ceramic complex (AD 830-930?) is representative of the "rump" Classic (Fig. 5k-p). The break between Chacalhaaz and Kumche gives every indication of a fundamental breakdown of the Classic Maya ceramic tradition accompanied by even further population decline. Kumche deposits occur as surface middens in the southern section of Piedras Negras. There is no evidence of architectural construction and only minimal occupation of the buildings during Kumche.

Kumche ceramics represent an admixture of local and foreign pottery. The Altar-Balancan-Tres Naciones groups are present as imports (Rands, Bishop, and Sabloff 1982), along with locally made imitations and styles unique to Piedras Negras. Local pottery includes red slipped bowls and basins, smudged black dishes, tripod bowls, and tripod graters. Salvemento Red-on-orange is an important type (Fig. 5n, o) and characterized by crudely painted designs on jars that are reminiscent of Postclassic designs. The red bar motif continues to be used and points to some connection between the Late Classic and Terminal Classic traditions.

In Terminal Classic times, the movement of ceramics returns to an east-west flow, viewed from a northwestern perspective, and Piedras Negras is once again in the frontier. The homeland of variants of the Fine Orange-Fine Gray pottery (Altar and Tres Naciones groups), presumably in the zone between Yaxchilan and Seibal, takes on the trappings of a new gateway community. This is evident in the vigorous exportation of pottery to Piedras Negras and other sites, and at least one of these sites in

this zone, Seibal (Sabloff 1975), is a boom town during this period.

CONCLUSIONS

On the basis of ceramic data, as well as other evidence not fully explored in this paper, it has been suggested that Piedras Negras existed at the border of the Peten-based southern Maya lowlands. This position was interpreted as ideal for the evolution of Piedras Negras from a small Preclassic settlement to a gateway city connecting Peten to the northwest. Owing to the inevitable competition that arises when a frontier is gradually brought into an expanding system, Piedras Negras declined in importance in the frontier and was eclipsed in the northwest by the growth of Palenque, which also paralleled the evolutionary course from gateway city to central place. These developments were terminated by the collapse of the Classic Maya system, yet not before a restructuring of economic and political integration that may have involved regions to the north. Before the effective abandonment of Piedras Negras there was a short-lived return of eastern influence.

It should be obvious that this application of the gateway model is too pat an explanation and undoubtedly simplifies economic and political processes. I have also not considered critical variables that shape the gateway city: its primary role as a trading center, the size of the hinterland, and the nature of competition between gateway cities. Also, the ceramic contribution to the gateway model, as proposed in this research, requires further refinement regarding the quantification of social interaction and a heavier reliance on paste compositional analysis. Nonetheless, I am still intrigued by events that seem to have characterized Piedras Negras and Palenque that may impinge on the interpretation of other border regions. To paraphrase Burghardt (1971:285), these events are interpreted as follows. Piedras Negras was "set up" by Peten as a gateway city to the northwestern periphery during the Early Classic. Later, competitors emerged in the frontier, such as at Palenque, forcing Piedras Negras to a central place status. These new centers "set up" the frontier and were in turn eventually "set up" as central places by the hinterland.

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nature and opened the Palenque survey data to my scrutiny. The discussion of data from collections gathered by Bob and associates is based on personal observation. Bill Woods and the Graduate School at Southern Illinois University at Edwardsville have also been instrumental in providing a computer and monetary assistance to attend the 1985 Maya Ceramic Conference. As always, Bonnie L. Gums generously provided all of the illustration work and editorial assistance. Finally, I wish to thank the INAH staff in Merida, in particular Dr. Peter Schmidt and Sylviane Boucher, for extending hospitality and knowledge. My brief discussion of the ceramics from Jonuta, Tecolpan, Dzibilchaltun, Coba, and El Tren derive from observations of collections in Merida in 1985.

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10

Ceramic Patterns and Traditions in the Palenque Area

Robert L. Rands

The greater Palenque zone of northeastern Chiapas and adjacent Tabasco is somewhat arbitrary in scope and, for ceramic purposes, cannot be considered a single region. The entire area is, however, included within Marcus' (1976) definition of a polity centered on the "regional capital" of Palenque. Although one-to-one relationships between major ceramic and political units would rarely be presupposed, problems of political and economic centralization, and their relationship to pottery production and exchange, are germane and have given direction to my research. These concerns affect the data base, which gives unusual weight to paste composition, but are not the primary thrust of the present paper. A chronologically-ordered summary of developmental trends is intended, noting similarities outside the study area as well as internal differences.

Three major physiographic regions are recognized (Fig. 1). From south to north, these are: 1) the heavily folded Chiapas-Tabasco foothills, or low sierras; 2) the low-lying, highly weathered Pleistocene terraces (the intermediate plains); and 3) the fertile recent alluvium of the middle to lower Usumacinta River (the Usumacinta floodplain). Although this formulation glosses over environmental zoning, ceramic patterns correspond sufficiently to give the three divisions utility, both as environmental and culture-historical constructs. Toward the eastern and western extremes of the study area, this tripartite regional formulation appears less useful than toward the center. (For specific implications of this formulation see Rands and Bishop 1980 and for a broader geographical perspective see West et al. 1969.)

The temporal framework for the present paper is anchored to excavations at Palenque in the low sierras and at Trinidad in the Usumacinta floodplain (Fig. 2). In

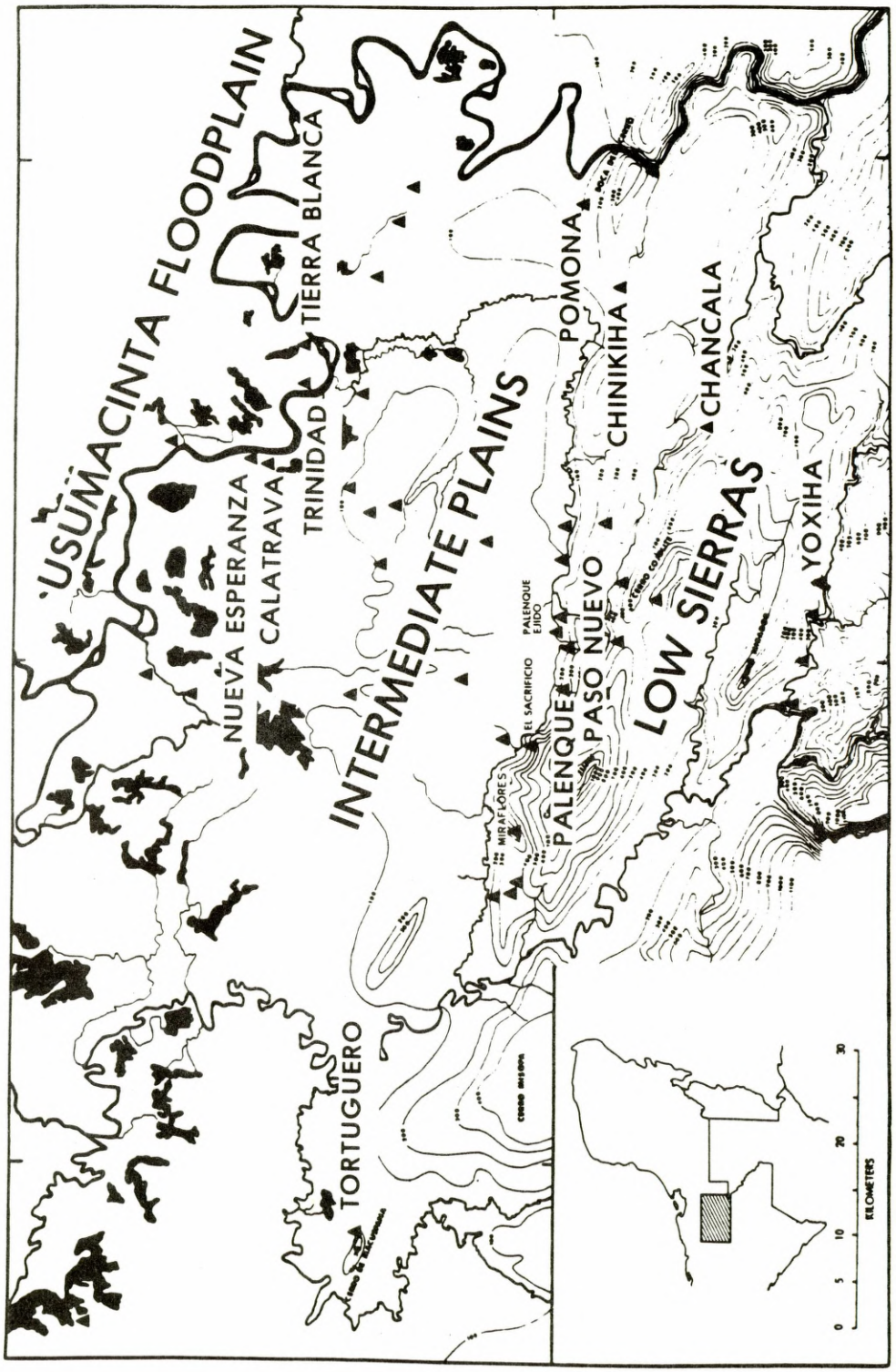


Fig. 1. Topography of the Palenque zone, with sites referred to in text or figures.

TIME (11.16.0.0.0 CORRELATION)	MAJOR PERIODS	PALENQUE	TRINIDAD
A.D. 1100	EARLY POSTCLASSIC	(Silho Horizon)	(Silho Horizon)
1000			
900	TERMINAL CLASSIC	HUIPALE	?
800	LATE CLASSIC	BALUNTE	Late NAAB Early
700		MURCIELAGOS	
		OTOLUM	Late TAXINCHAN Early
600	MIDDLE CLASSIC	CASCADA	
500	EARLY CLASSIC	MOTIEPA	(Early Classic Horizon)
400			
300		PICOTA	
200			?
100	LATE PRECLASSIC	(Late Waxy Horizon?)	
0 B.C.			?
100			
200		MISOLHA (Early Waxy Horizon)	
300	MIDDLE PRECLASSIC		CHACIBCAN
400			
500			XOT
600		(Pre-Waxy Horizon)	
700			CHIUAAN
800			

Fig. 2. Chronological chart for the Palenque zone.

part, the absence of a major stratigraphic column for a site in the intermediate plains represents deficiencies in sampling but, additionally, underscores the marginal demographic and cultural position of the region. Except in the close vicinity of the sierras, a significant occupation of the plains is indicated only for the Late Classic period (Murcielagos and especially Balunte complexes). At that time, ceramic affiliations are closer to Palenque and the low sierras than to Trinidad and other sites in the Usumacinta floodplain.

The concept of horizon markers is employed at Trinidad and Palenque to indicate poorly represented developments that are not fixed in a full ceramic complex (Fig. 2). These markers are in some cases better represented at nearby sites and, in any case, have temporal significance for southeastern Mesoamerica. The Classic sequence at Palenque is assessed by changes in a few broad traditions. The traditions show cohesiveness in paste, technology, and broad categories of vessel shape that should relate to function, as well as in certain aspects of surface finish. Changes in modes of shape play an important role in temporal refinement within each tradition. The present emphasis results from pragmatic considerations. Unusually poor preservation of surface finish is characteristic of the low sierras and intermediate plains, limiting the utility of type-variety analysis and necessitating analytical procedures to supplement the method. (See Forsyth 1983 for a critique of strengths and limitations of the type-variety approach.) Although sometimes badly eroded, the waxy Preclassic slips tend to be much better preserved than Classic slips, with the exception of Early Classic pottery belonging to the Aguila ceramic group. All the better preserved slipped ceramics are, apparently, imports; it is the locally produced monochromes and polychromes that are especially subject to weathering. Yet, in spite of repeated seasonal and intraseasonal stress from saturation and drying as the Usumacinta floods and subsides, the entire range of ceramics along the river tends to be better preserved than that from other portions of the study area.

The traditions may be characterized as polythetic clusterings of traits that cohere usefully over time spans greatly exceeding a ceramic complex. None of the traits is sufficient or absolutely necessary for defining the tradition, and, in fact, variability within a tradition constitutes part of the evidence on which ceramic complexes are defined.

Loosely, the traditions might also be characterized as wares of long duration, as "ware" is sometimes employed in the archaeological literature. This does not conform, however, to the specifics of type-variety usage, and I further agree with Rice's (1976) strictures about the problems in type-variety analysis resulting from inconsistent use of the ware concept. Rather than adding to the confusion surrounding the term, I use designations such as Palenque's "sustained brown paste tradition," the "Early-Middle Classic jar tradition," or, when the constellations of paste, technological, and cultural features is largely confined to a single ceramic complex, the "gloss subcomplex" of Motiepa (see Willey, Culbert, and Adams 1967).

In the investigations of many problems, these broad formulations could (and should) be abandoned in favor of a larger number of separate non-hierarchical traditions. An example is the everted-rim tradition, prominent throughout the ceramic history of Palenque in the brown paste tradition but also important in the late buff/brown/gray-paste subcomplex of Balunte. Operationally, the more specific traditions have greater utility. The broad traditions presented here are synthetic and descriptive rather than analytic, their strength being inferred from frequencies of discrete but relevant attributes as well as from somewhat impressionistic assessments of slip and paint frequencies.

I have often referred to the ceramic isolation of the study area, or significant portions of it, as seen from a generalized lowland Maya perspective (Rands 1973, 1974, 1977). Recognizing that the rest of the Maya area is by no means uniform and leaving aside certain qualifications, the divergence may be illustrated by citing widespread modal traditions that are weakly developed or of short duration, with special reference to the immediate locality of Palenque. These include striated jars, handled jars, high necked Classic jars, composite silhouette vessels, and spouts. Development of the impressed fillet is generally feeble, and the rarity of spiked incensarios is marked. Flanges and ring-stand bases are weakly developed as is polychromy (with special reference to figural painting). The absence of a sustained polychrome tradition may relate to the relative unimportance of slipped surfaces, although, as seen, an element of uncertainty is present due to poor preservation of surface finish. From a perspective that Lowe (1977, 1978) and others would associate with the Mixe-Zoque, the rarity of certain of these traits, such as handled jars and polychromy, does not appear aberrant.

PRECLASSIC PERIOD

Inspection of the chronological chart (Fig. 2) shows lacunae in the long Trinidad sequence, which is broken or poorly represented for most of the Late Preclassic and Early Classic periods. The heavy concentration of Preclassic pottery antedates the appearance of waxy ware. The contrast of the lustrous waxy slip with earlier slips may be even greater than is generally the case in the Maya lowlands. This observation could indicate still another break in the sequence, between the Xot and Chacibcan complexes (representing a time of experimentation in the slips), or suggest the sudden introduction of waxy ware as a technologically developed ceramic. For the study area as a whole, the waxy feel of this pottery is pronounced.

At Palenque, where the Preclassic is poorly

represented, shapes in the waxy-surfaced ceramics suggest a temporal position antedating the more diagnostic Chicanel modes. If developmental trends are synchronous, a late Middle Preclassic horizon is probable. The paucity of characteristic Chicanel ceramics from the study area may indicate, however, that the Chicanel ceramic sphere was never established in the west, generalized Mamom or Mamom/Chicanel-like developments tending to persist throughout the late Preclassic period.

Early Preclassic in the Usumacinta Floodplain

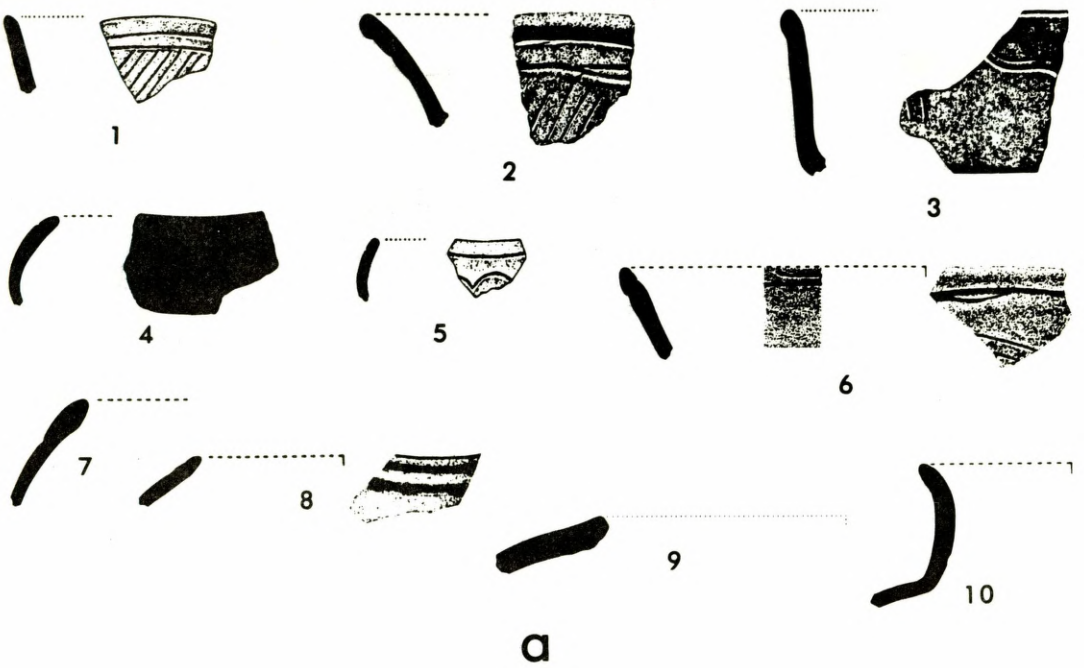
Olmec-style figurine heads of Tierra Blanca, though not anchored to a local sequence, correspond to examples in the San Lorenzo phase, Veracruz (Rands 1977: Fig. 7.1a, b). I have also commented on Olmecoid aspects of ceramic figurines from Palenque--in keeping with jade in Olmec style reported for the site (Dockstader 1964: Fig. 78)--but the latter objects do not suggest the early date indicated by the Tierra Blanca heads.

Middle Preclassic: Pre-Waxy Horizons

Early developments in the Middle Preclassic are best documented at Trinidad, in the Chiuaan and Xot ceramic complexes (Fig. 3a, b). Occurrences in and near the low sierras are also noted (Fig. 4a). By considering these materials separately from later developments in the Middle Preclassic, the absence of waxy slips is emphasized.

Sparse materials in the lower levels at Trinidad may indicate an early facet of Chiuaan, perhaps pushing back in time toward the Early Preclassic (Fig. 3a3,-8,-9). Included are thick walled white slip tecomates, thick walled white rim blackware, and, perhaps, thin walled tecomates with horizontal grooving below the rim exterior. Bold, sweeping incising is present. As in the later Chiuaan ceramics, however, stamped, striated, brushed, or other textured surfaces are essentially unknown.

Fig. 3. Usumacinta floodplain, Middle Preclassic. a, Chiuaan ceramic complex (pre-waxy). 1-3, 5-10, Trinidad; 4, Tierra Blanca. 1, 2, 4, red; 8, black; 9, white. 1-7, incised; 8, fluted. 1-6, 9, volcanic glass temper; 7, quartz; 8, fine paste with numerous volcanic glass inclusions; 10, quartz sand with sparse volcanic glass. b, Xot ceramic complex (pre-waxy). 1-6, Trinidad. 3, red; 4, black; 6, red daub. 1, 4, 5, grooved-incised; 2, 3, chamfered-grooved. 1, 2, 5, 6, volcanic ash temper; 3, 4, fine paste with numerous volcanic glass inclusions. All ceramic illustrations to scale shown here.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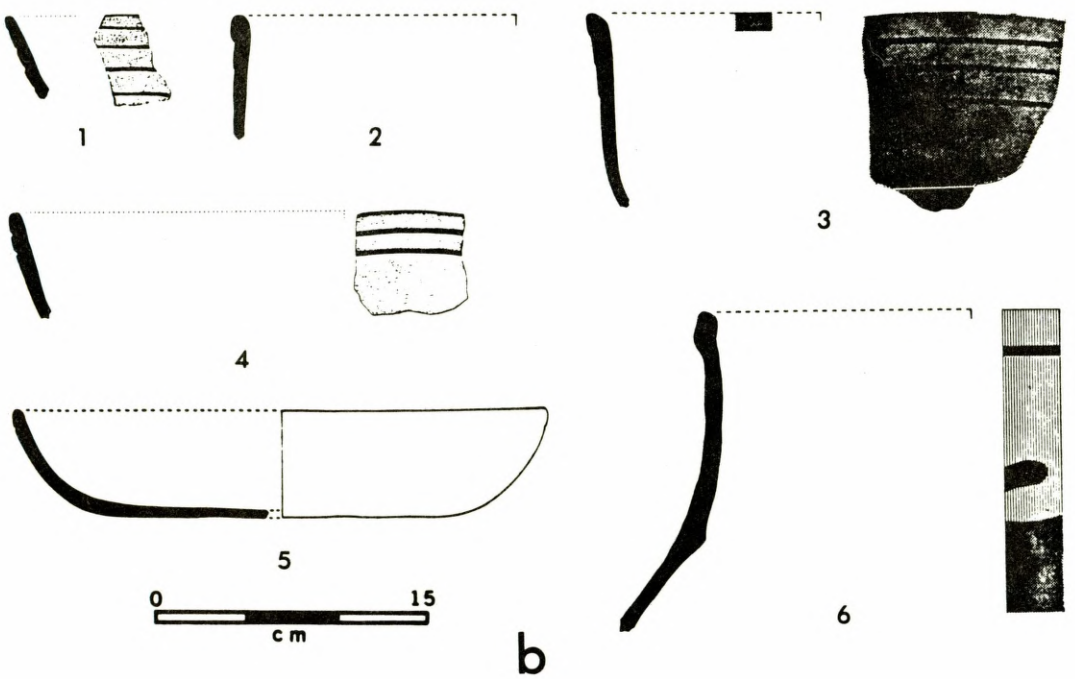
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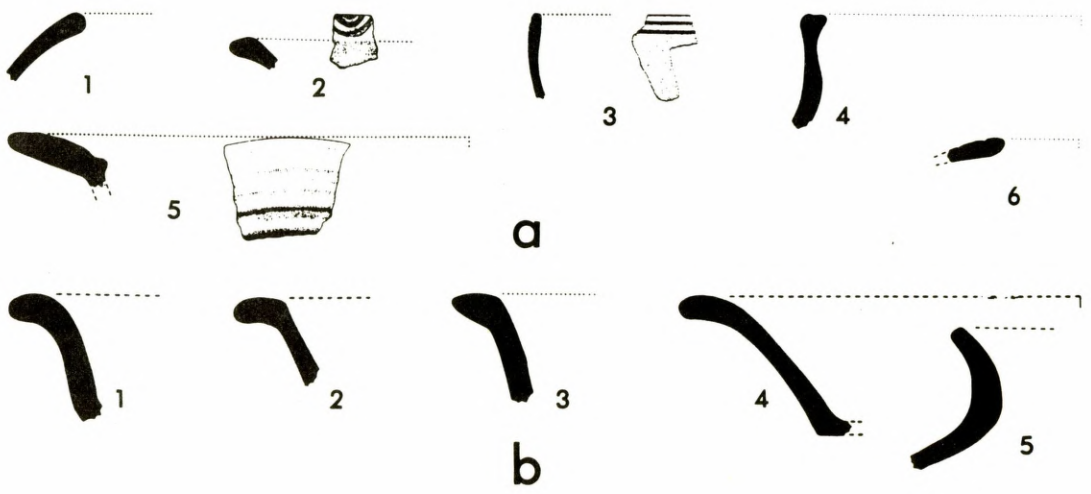


Fig. 4. Preclassic. a, Sierras/Plains (pre-waxy). 1-3, Paso Nuevo; 4, Chinikiha; 5, Palenque, 6, Yoxiha. 4, red daub. 2, 3, 5, 6, incised and groove-incised. 1-4, volcanic ash temper; 5, sherd; 6, carbonate. b, Usumacinta floodplain, Chacibcan ceramic complex (waxy). 1-3, Trinidad; 4, 5, Nueva Esperanza. 1, 2, 4, 5, red. 1, 2, 4, 5, carbonate temper; 3, volcanic ash.

Chiuaan pastes are generally light buff containing fine volcanic glass, and are often extremely hard. High-neck jars (Fig. 3b6), found in Xot contexts, have similar paste, but many of the Xot ceramics tend toward a softer, redder paste with quartz sand, often having a sparse admixture of volcanic ash. In general, Chiuaan participates in a widespread horizon of hard white wares (Coe and Diehl 1980:188). Nevertheless, ceramics of similar paste are present, in varying frequencies, throughout most of the Trinidad sequence.

Some Chiuaan pottery has a nonlustrous orange-red slip; unslipped surfaces are generally unburnished. Contrastive slips are less common in Xot, when polishing is more frequent. Irregular areas of matte red paint, reminiscent of Palma Daub, occur on Xot jars (Fig. 3b6).

Broad-line incising is the most common decorative technique in the Chiuaan complex (Fig. 3a1-7). Principal motifs include the single- and double-line break, slanting parallel lines, and connected arcs or loops. Horizontal fluting occurs. In Xot, single or multiple circumferential grooved-incised lines are common on vessel exteriors (Fig. 3b1,-4,-5), but otherwise incising declines. An occasional decorative effect may be described as a combination of horizontal grooving and chamfering (Fig. 3b2,-3).

Dominant shapes in the Chiuaan complex include flat base, flaring wall dishes, tecomates, and restricted orifice bowls. Necked jars are uncommon. Xot jars have exceptionally high necks with pronounced, undulating coiling (Fig. 3b6). Flared to rounded sides are represented on flat base bowls and dishes, and a modified cuspidor form occurs. Tecomates decline, perhaps disappearing in Xot. Striking for their absence in both complexes are wide everted rims.

Large, solid, white paste figurine fragments are present. Apparently, Conchas 1-like figurines can be placed in the Chiuaan complex and a Mamom-style figurine head occurs in Xot (Rands 1977: Fig. 7.1c, e).

In general, the closest Chiuaan affiliations lie to the west of the Maya area, although features are shared with Xe. A horizon early in the Middle Preclassic is indicated, modal similarities being present, for example, in the Nacaste and Palangana phases at San Lorenzo, Dili in the Chiapas depression, and Duende and Conchas 1 in southern Chiapas and Guatemala (Coe and Diehl 1980; Dixon 1959; Ekholm 1969; Coe and Flannery 1967). Maya relationships are strengthened in the Xot complex. A generalized Mamom horizon is indicated, as seen in similarities to red-daub jars, chamfering, and figurine style. Nevertheless, certain absences indicate a sharp break with the Mamom ceramic sphere, including Flores Waxy ware, wide everted rims, and Mars Orange ware. The absence of waxy ware suggests a temporal position relatively early in the Middle Preclassic, though the possibility of isolation from centers of innovation, with lag, cannot be dismissed.

Pre-waxy ceramics are poorly represented at several sites in and adjacent to the low sierras. Xot jars--close in their distinctive shape and chemical composition to those of Trinidad--occur at Chinikiha (cf. Figs. 3b6, 4a4). A massive grooved, everted rim at Palenque (Fig. 4a5) may belong to a pre-waxy period; if so, it is in marked contrast to Chiuaan and Xot, which lack appreciable rim eversion. A single grooved-and-punctate figurine head is known at Palenque. Pastes are variable, with volcanic ash, sherd, and carbonate temper. Matte red slip or daub occurs; incising includes circumferential lines and arcs; tecomates are present. It is not unlikely that some of the low sierras ceramics grouped here occupy slightly different temporal positions.

Middle Preclassic: Waxy Horizons

In the Usumacinta floodplain, the Chacibcan complex at Trinidad is complemented by observations of materials from mounds at Nueva Esperanza, bulldozed during road construction (Fig. 4b). Orange and red monochromes with

highly waxy surfaces characterize the relatively sparse Chacibcan ceramics. Carbonate temper, not locally available in the Usumacinta floodplain, also appears. These are the first vessels at Trinidad having wide everted rims, which are ungrooved. Ceramic change seems abrupt. Dating from the same general horizon is blotched, cloudy resist (Flores Waxy ware, Tierra Mojada Resist) at Nueva Esperanza. Temporal equivalence to an Escoba-San Felix-Mamom horizon is indicated.

Waxy-surfaced ceramics are scattered in and adjacent to the low sierras. The Misolha complex is a construct designed to bring together these somewhat disparate red and white monochromes. Negative traits have importance in temporal placement: Usulutan-related decoration, labial or medial flanges, and sharp medial wall angles are apparently absent. Even if the Misolha complex extends into the Late Preclassic, it is lacking traits characteristic of developed Chicanel ceramics. Round side to flaring wall bowls are common (Fig. 5a1,-2,-9-12); exterior walls sometimes bearing horizontal fluting. Rim bolstering is present, and wide everted rim dishes, occasionally with interior rim grooving, are represented (Fig. 5a4, -5, -13, -15). Thick walled, short neck jars, generally tapering to a blunt lip, resemble those of the Chacibcan complex (cf. Figs. 4b5, 5a6).

Late Preclassic

In and near the low sierras, a small number of ceramics can be placed on a late waxy horizon. At Paso Nuevo, for example, a brushed, plaited motif, occurring on a tripod dish assignable to the Sierra ceramic group, resembles rare decoration in the Plancha complex of Altar de Sacrificios (cf. Fig. 5b3; Adams 1971: Fig. 16h, i). Developed Chicanel ceramics are also known along the Usumacinta River, including medial flanges and an everted rim dish with variant "gutter" grooving (Fig. 5c).

CLASSIC PERIOD

Owing to the absence of Floral Park-like developments, the Protoclassic is not indicated as a separate period in the chronological chart (Fig. 2). The Picota ceramic complex of Palenque may, however, extend back to include this horizon. A Middle Preclassic period is recognized but differs from constructs emphasizing Teotihuacan and Teotihuacanoid influences (Parsons 1969; Pasztory 1978). A more restricted time span is indicated, only slightly greater than the hiatus in the Classic Maya inscriptions (Willey 1974). Somewhat impressionistically, developments on this level at Palenque may be characterized as the termination of the local Early Classic tradition and those at Trinidad as ushering in the

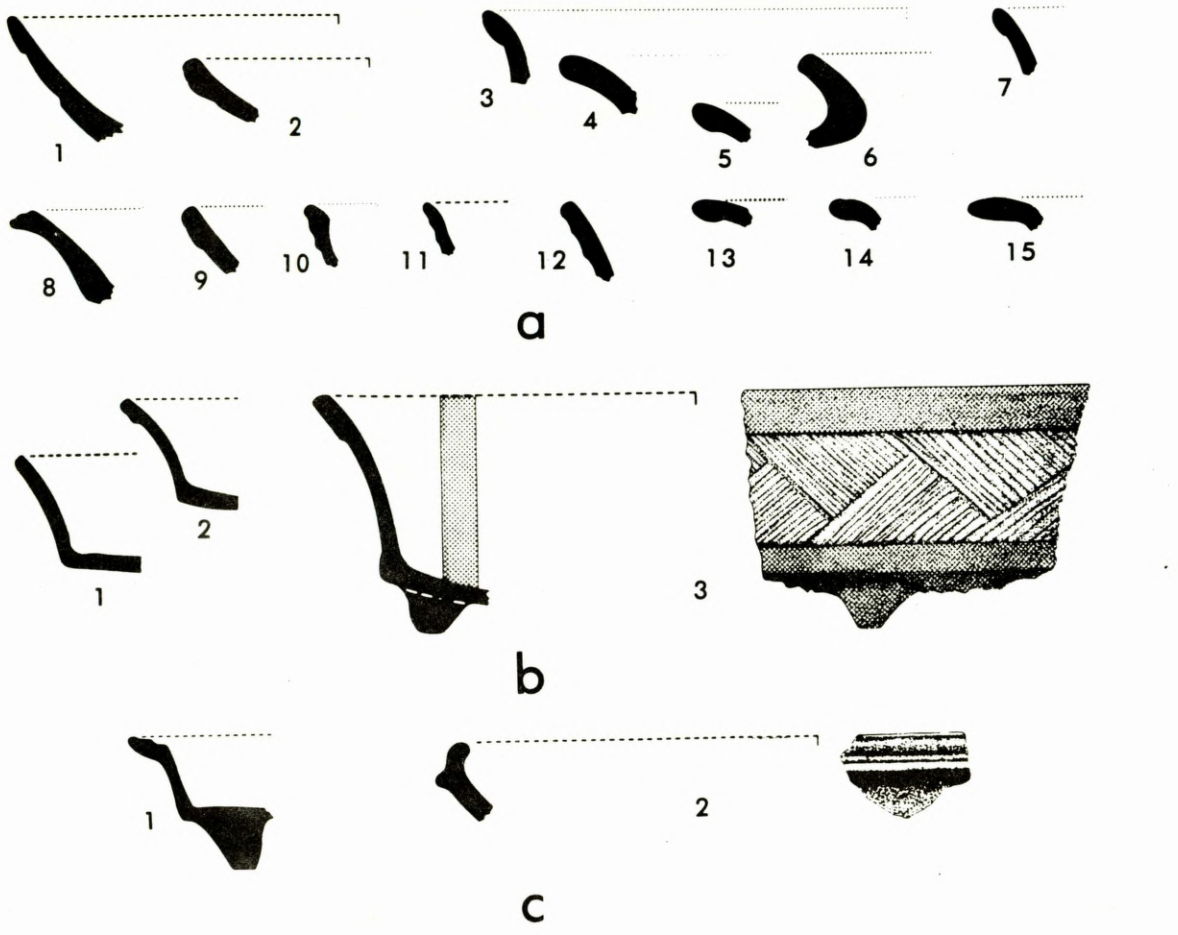


Fig. 5. Preclassic. a, Sierras/Plains (early waxy, mostly Misolha ceramic complex). 1, Paso Nuevo; 2, 5, 11, 13, Palenque; 3, Chinikiha; 4, 8, 10, 15, Yoxiha; 6, 9, Palenque Ejido; 7, 12, Miraflores; 15, El Sacrificios. 1, 2, white; 4, 5, 8-15, red. 8, 14, groove-incised; 1-12, fluted. 1, 5, 12, fine paste with numerous volcanic glass inclusions; 2, 13, 14, quartz temper; 3, 4, 8, 10, 15, carbonate; 6, 7, 9, 11, volcanic ash. 2, phytolith-rich (no volcanic ash). b, Sierras/Plains (late waxy). 1-3 Paso Nuevo. 1-3, red. 3, brushed. 1, 2, volcanic ash temper; 3, fine paste (highly micaceous). c, Usumacinta floodplain, Late Preclassic. 1, Nueva Esperanza; 2, Tierra Blanca. 1, 2, Sierra Red. 2, volcanic ash temper.

Late Classic. As will be made clear, the Terminal Classic is defined with primary reference to Fine Orange ware, the Chablekal group of Fine Gray ware being placed on a slightly earlier horizon (see also Rands et al. 1982).

Preclassic-Early Classic Continuity and Disjunction in the Low Sierras: The Picota Complex of Palenque

Volcanic ash-tempered waxy wares disappear in Picota (Fig. 6), but Preclassic continuities in shape and apparently other ceramic patterns are indicated. Shape modes characteristic of the Maya lowlands are also present. Nevertheless, composite silhouette forms are essentially absent, and the ceramic assemblage lacks such markers as gloss ware, polychrome, and orange slip. Clearly, changes ushered in by the decline of the Preclassic tradition take a direction contrastive to the better known Floral Park-Tzakol developments.

Picota developments are discussed in terms of Palenque's ceramic traditions. One of these, the brown paste tradition, relates to quartz-tempered pottery in the form of open mouth vessels. The tradition may have Preclassic roots but becomes dominant in Picota. Tending to be well oxidized, this medium-to-fine grained pottery, as well as relatively infrequent fine textured ceramics, includes red-brown and orange-brown pastes (especially under refiring, 2.5YR hues predominate). Surfaces are well smoothed. Slip, when present, is matte red. This seems to be the dominant slip throughout the Early and Middle Classic (Picota through Cascada complexes). Although this slip is subject to severe weathering, it is apparently less common in Picota than in later complexes. The brown paste tradition lasts throughout the Classic sequence, although toward its close dishes, basins, and beakers are well represented in other paste classes.

Dishes are a major form class in the brown paste pottery of Picota. However, the dish tradition is not set or stable; deep, everted rim vessels are characteristic but merge with larger, steep walled bowls or basins (Fig. 6e-g) and with shallow, direct rim dishes (Fig. 6h, i, l). A Preclassic heritage is probable for the abundant, widely everted rims. The flaring wall tripod dishes have massive, solid slab feet (Fig. 6j, m, r). Zones of vertical grooving are common on the exterior of these everted rim ceramics (Fig. 6a, r). Ring bases have their maximum occurrence at Palenque in the Picota complex (Fig. 6k).

The common Maya association of jars with rough surface finish is pronounced at Palenque. Throughout the jar sequence, temper is coarse; heavy temper dragging is present on vessel exteriors (striation is almost unknown); opal phytoliths sometimes occur in the paste; and pastes

Fig. 6. Palenque, Picota ceramic complex. a, red. a, r, grooved. a-o, q, quartz temper; p, carbonate; r, fine paste. g, n, o, phytolith-rich (no volcanic glass).

tend toward yellowish hues (10YR-7.5YR hues predominate, especially under refiring). Accordingly, both surface finish and paste composition are contrastive to the more finely textured, redder ceramics of the sustained brown paste tradition. The Early-Middle Classic jar tradition is further characterized by short outflared necks, steep shoulder to neck wall angles, and the use of carbonate or quartz temper. (Quartz grains are commonly a minor constituent of the matrix in the abundant carbonate-tempered jars.) Picota jars, initiating the tradition, are shown in Fig. 6n-q.

In summary, the divergent nature of Picota is marked, not only in a Mesoamerican setting but, as known at the present time, regionally. Although rare examples of the Picota slab foot are found at a few sites in the study area, the complex is identified only at Palenque. Basic traditions took shape at this time which were to characterize much of the Classic pottery of Palenque and adjacent sites in the low sierras.

Early and Middle Classic at Palenque: Increasing Maya Contacts but Sharp Ceramic Boundaries on the East

Developments at Palenque refer to the Early Classic Motiepa and Middle Classic Cascada complexes (Fig. 7). First, changes within the local ceramic traditions are noted, followed by more pronounced changes that apparently reflect important outside stimuli.

The brown paste tradition continues. Non-gloss red slip occurs most frequently in the Motiepa complex, and I doubt if this is simply the result of better preservation. For perhaps the only time in the Palenque sequence, slip has an appreciable occurrence on the exterior as well as interior of dishes or plates, an observation that holds for red slip as well as for the gloss slip discussed below. Resist painting is also associated with the dishes (Fig. 7c). Although in an earlier report (Rands 1974) this was attributed to the Picota ceramic complex, resist may have peaked in Motiepa, with a carry-over into Cascada and the Late Classic. However, because of poor surface preservation, it is difficult to assess developmental trends in resist or its importance at Palenque.

Although present in the brown paste dishes and basins, everted rims decline in width and frequency from Picota through the Middle Classic. The shift from the large Picota everted rims to smaller rim eversion is accompanied, in Motiepa, by thinner walls, flat bases, and solid, subconical feet (Fig. 7a-d). With some changes in frequency, similar feet occur until the end of the Palenque sequence. In the Cascada complex, bolstered rims gain in frequency at the expense of rim eversion; this is

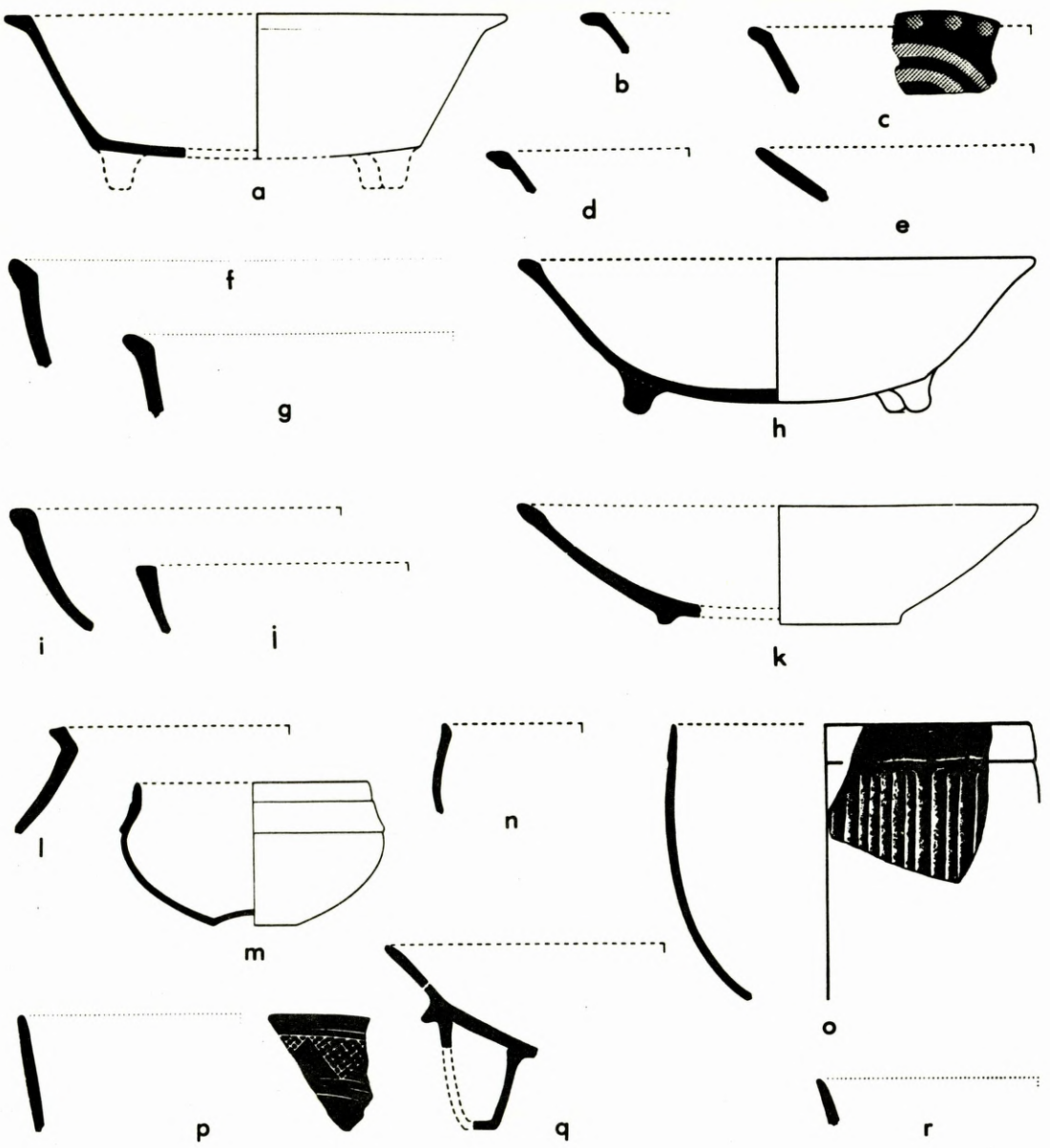


Fig. 7. Palenque, Motiepa and Cascada ceramic complexes. a-g, Motiepa (non-gloss); h-n, Cascada (non-gloss); o-r, Motiepa (gloss). a, k, red; c, resist (red); m, black. o, Paradero Fluted; p, Lucha Incised; q, Aguila Orange; r, Balanza Black. a-l, quartz temper; m, fine paste; o-r, carbonate. j,k, l, phytolith-rich (no volcanic glass).

seen both in dishes (Fig. 7h, k) and basins (Fig. 7i, j; cf. Motiepa basins in Fig. 7f, g).

The jar tradition follows the general patterns established in Picota, with minor changes occurring in the three Early and Middle Classic complexes. Elaborated rims, thick in comparison to the vessel wall, and quartz or carbonate temper, characterize Picota jars; unelaborated rims and carbonate temper characterize jars of Motiepa; and simple rims and carbonate or quartz temper are found in the Cascada jars. A drift toward more shallow wall angles is also indicated (cf. Figs. 6n, q, 7l) though, as compared to Late Classic developments, the upper wall remains steep.

Presenting a series of contrasts to pottery of the much more abundant brown paste tradition, the gloss subcomplex of Motiepa might also be designated a trade subcomplex. Glossy surfaces and ceramic types characteristic of the Tzakol sphere, though rare, are present (Fig. 7o-r). These occur with fine-textured carbonate temper. Pastes differ from the local carbonate tempered jars in several respects, including the essential absence of quartz grains as natural inclusions in the clay matrix. There is only sporadic exchange in features characteristic of the gloss subcomplex with functionally equivalent serving pottery of the brown paste tradition. However, the maximum utilization in Motiepa of carbonate temper, both in gloss ceramics and in jars, may not be coincidental. Instead, perhaps, Palenque´s decreasing isolation from major Maya developments is reflected on a general technological level, as well as by the appearance of stylistically distinct, nonlocally manufactured pottery. No absolute schism between the subcomplex and the local traditions is claimed.

The gloss subcomplex of Motiepa includes widespread Early Classic monochrome types, including Aguila Orange, Paradero Fluted, and other members of the Balanza ceramic group (Fig. 7o-r). Gloss is usually greater in the Aguila materials. Polychromes are poorly represented, though the Dos Arroyos Orange Polychrome type is present. Correspondences are especially close to the Bana complex of Piedras Negras (Holley 1983), including tripod basal-flange dishes (Fig. 7q).

External contacts, though possibly of equal importance, seem less clearly focused in Cascada. A trade subcomplex distinct from the local traditions is not as apparent as in Motiepa, perhaps reflecting a wider range of contacts as well as a greater reworking and incorporation of diffused traits into the local Palenque ceramic tradition. The traditions derived from Picota give the impression of less vigor than in Motiepa. Fine-paste pottery increases. More specifically, the

occasional use of specular hematite paint on orange-slipped round side bowls recalls much stronger developments in the Balche complex at Piedras Negras. Cascada rim moldings are similar to those of the early-facet Taxinchan complex of Trinidad (cf. Figs. 7m, n, 9j); at the latter site, this shape mode is strongly associated with the Egoista Resist type, as described for Becan (Ball 1977).

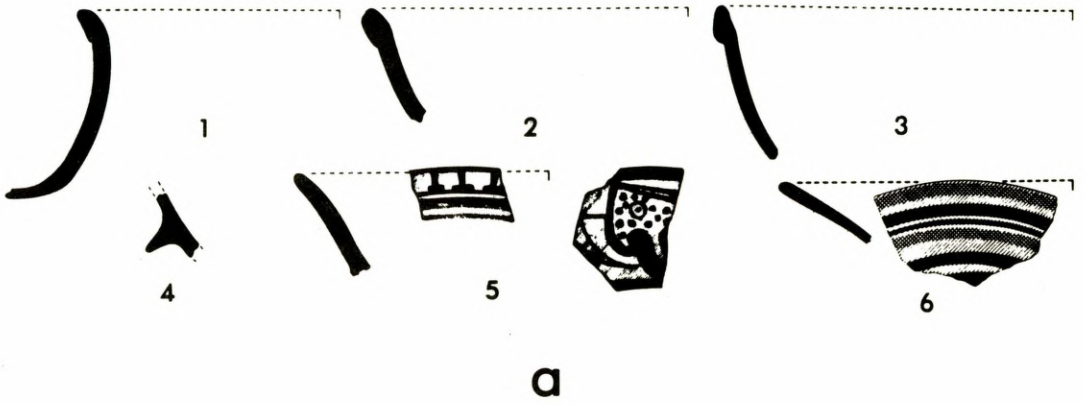
As has been seen, the Peten Gloss ware pottery of Palenque has connections to the east, with special reference to Piedras Negras. Frequencies, however, are low. In contrast, in the low sierras some 30 or 40 km to the south and east of Palenque, Early Classic ceramics from Chinikiha, Chancala, and Yoxiha have strong eastern (widespread Maya) affiliations, standing sharply apart from the local pottery of Palenque. Important boundary phenomena are indicated.

These differences are pronounced in the utilitarian pottery of Chinikiha and Chancala (Fig. 8a1-3), which is closely approximated in the Bana complex of Piedras Negras (Holley 1983). Heavy carbonate temper is present in basins as well as jars. The jars (usually Triunfo Striated) are high necked with bolstered rims (contrast Palenque, Figs. 6n-q, 71). Rim bolstering also characterizes the Chinikiha-Chancala basins (Texcoco Unslipped), which lack the smooth surfaces consistently present on the Palenque quartz tempered basins (contrast everted rim examples in Figs. 6g, 7f,g). Also present in the eastern sites are impressed fillets, unknown on this time level at Palenque.

Additional differences between these sites and Palenque are noted. Figurine heads from Chancala correspond closely to those from Naba deposits at Piedras Negras (Rands and Rands 1965; Schlosser 1978). In a typical Tzakol treatment, stylized birds occur on basal flange bowls at Chinikiha (Fig. 8a5) and Yoxiha (Blom and LaFarge 1925, vol 1: Pl. 4). On the other hand, the low gloss orange polychromes of Chinikiha tend toward simple compositions such as horizontal banding (Fig. 8a6). Unfortunately, adequate description and assessment of the polychromes is impossible because of the heavy weathering.

Late Classic in the Low Sierras: The Otolum Climax at Palenque

Palenque emerged as a major Maya center during the Otolum complex (Rands 1977). Exotic ceramic imports virtually disappear, but, for the first and only time, orange-slipped pottery and polychrome ceramics are produced in quantity at (or near) the site. These



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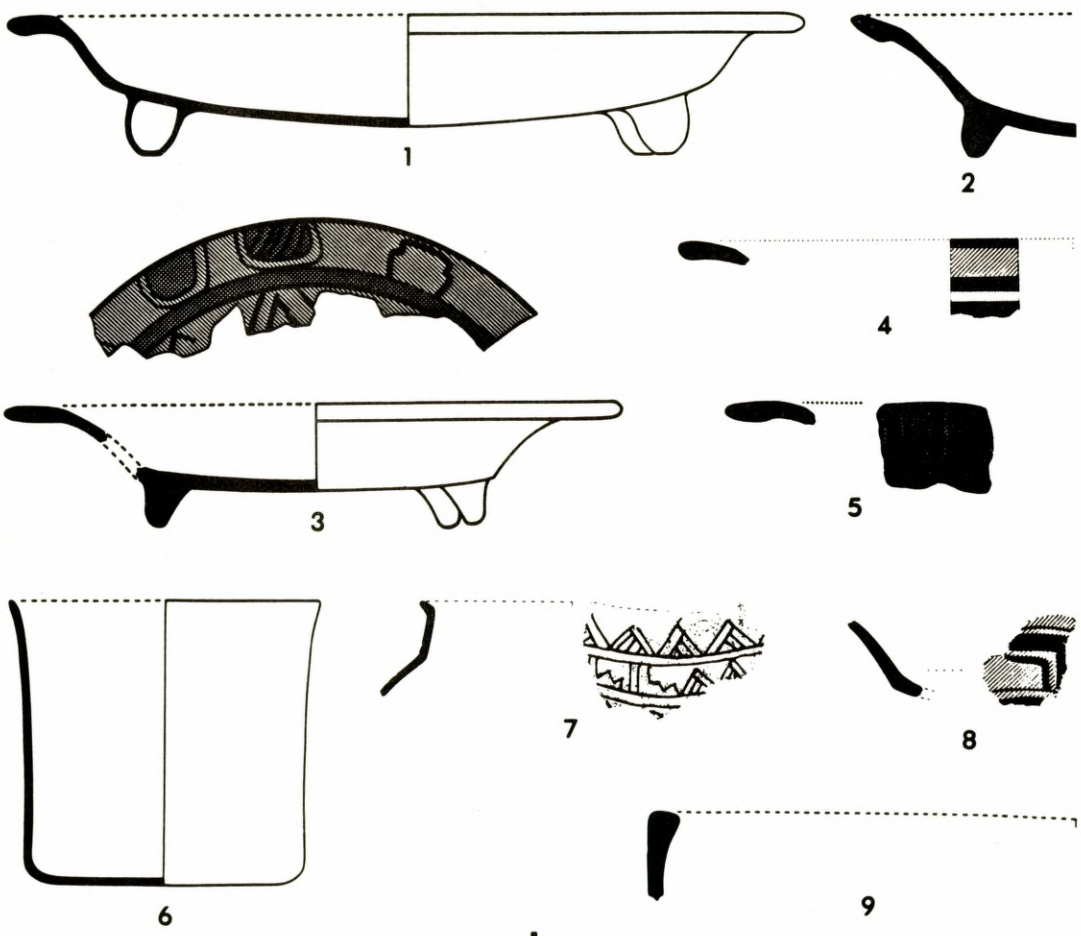


b

treatments are largely restricted to a single vessel form, a tripod plate with solid or hollow feet and exceptionally wide everted rim (Fig. 8b1-5). Rim eversion reaches dysfunctional proportions in the sense that easy breakage is promoted; the combination of heavy rims and relatively thin walls plays havoc. Slip and paint weather badly on this orange polychrome (usually red, black, and orange over a cream primer). Unlike the gloss surfaces of Motiepa, better preserved examples indicate a polished rather than colloidal slip. The wide everted rim clearly serves as a major design field, vessel interiors bearing simple geometric patterns. No examples of figural painting are known. As is the case in the earlier everted rim dishes, the Otolum plates have quartz tempered paste, fine-textured examples also occurring. Basins continue in this brown paste tradition although, rather than being flared or outcurved, walls become vertical (Fig. 8b9). Cylinders are added to the shape repertoire (Fig. 8b6) but, except for possible examples of resist painting, seem to be undecorated.

Carbonate temper declines in jars, being replaced by quartz sand. Changes in jar shape include a trend toward thinner walls, smaller orifices, and relatively high, almost vertical necks with slightly everted rims; very rarely, orange slip and incising are present (Fig. 8b7). The Early-Middle Classic jar tradition has ended as a cohesive unit, though aspects of it are maintained.

Certain of the Otolum developments represent minor variation or play within established traditions, others mark the effective beginning of Late Classic ceramic traditions at Palenque, and still others are essentially complex-specific. The brown paste tradition carries on; Otolum and Murcielagos jars are, however, occasionally made in this paste. Although initiated in the Cascada complex, the trend away from carbonate tempering in jars accelerates in Otolum, quartz temper predominating until the end of the sequence. Beginning in Otolum, relatively high necked jars peak in the Murcielagos complex (by most standards for the Classic Maya, these necks would, at best, be of only moderate height). The trend toward large basins with vertical upper walls, which commences in

Fig. 8. Classic. a, Eastern low sierras, early Classic. 1-3, 5, 6, Chinikiha; 4, Yoxiha. 1-3, Texcoco Unslipped; 5, Dos Arroyos Orange Polychrome; 6, low-gloss orange polychrome. 1-3, 5, 6, carbonate temper; 4, volcanic ash. b, Palenque, Otolum ceramic complex. 1(?), 3, 8, orange polychrome; 4(?), cream polychrome; 5(?), red-on-orange. 7, incised orange. 1, 2, 4-6, 8, 9, quartz temper; 3, 7, fine paste. 7, phytolith-rich (no volcanic glass).

Otolum, peaks in the Balunte complex. Cylindrical and subcylindrical vessels continue through Balunte. Everted rims also continue but, on plates and dishes, are markedly reduced after their extraordinary development in the Otolum complex. Locally made orange polychrome is, apparently, almost exclusively confined to Otolum.

Although divergent Early Classic occupations have been noted for the southeast, Otolum is the first of Palenque´s Classic ceramic complexes known to be approximated at a number of sites in the low sierras. However, typical Palenque materials are still lacking from Chinikiha, Chancala, and Yoxiha, suggesting continued independence from Palenque´s sphere of ceramic influence. More work is needed.

Middle and Late Classic in the Usumacinta Floodplain: The Taxinchan Complex of Trinidad

The Taxinchan complex at Trinidad is divided into an early facet, more or less equivalent in time to Cascada, and a late facet, the temporal equivalent of Otolum. The early facet is poorly represented, and, with better sampling, a separate ceramic complex might be recognized.

Although occurring in levels attributable to both facets, the Egoista Resist type is best represented in the early facet (Fig. 9j, k). The type is known from Becan, where it is placed in the Bejuco complex and is characterized as a Middle Classic horizon marker (Ball 1977:82). Similarities in shape extend to the Cascada complex of Palenque. Additional resist types are present in late-facet Taxinchan (e.g., Fig. 9l).

Orange polychrome increases in the late facet, varying degrees of resemblance existing with the Saxche and Palmar types. Surfaces are glossy and designs geometric. In the bowls, a yellow-red paste with ash temper or inclusions is common (under refiring, 5YR hue predominates). In comparison to the bowls, a larger proportion of the dishes is quartz tempered with redder paste (refired or unrefired, generally 2.5YR hue). From these and other data, it appears that patterns of clay procurement and/or exchange set apart the bowls and dishes. Wide everted rim dishes resemble those of the Otolum complex at Palenque, often having generalized chemical similarities to this form as known in the low sierras. However, long-lived red-on-cream beveled rim dishes of Trinidad (not illustrated) fit closer to the compositional pattern of the bowls (hues again are in the 7.5YR-10YR range, usually refiring to 5YR).

In addition to the bowl-dish distinctions, which are not shared with Palenque, Late Classic differences between Trinidad and Palenque are pronounced. This is exemplified

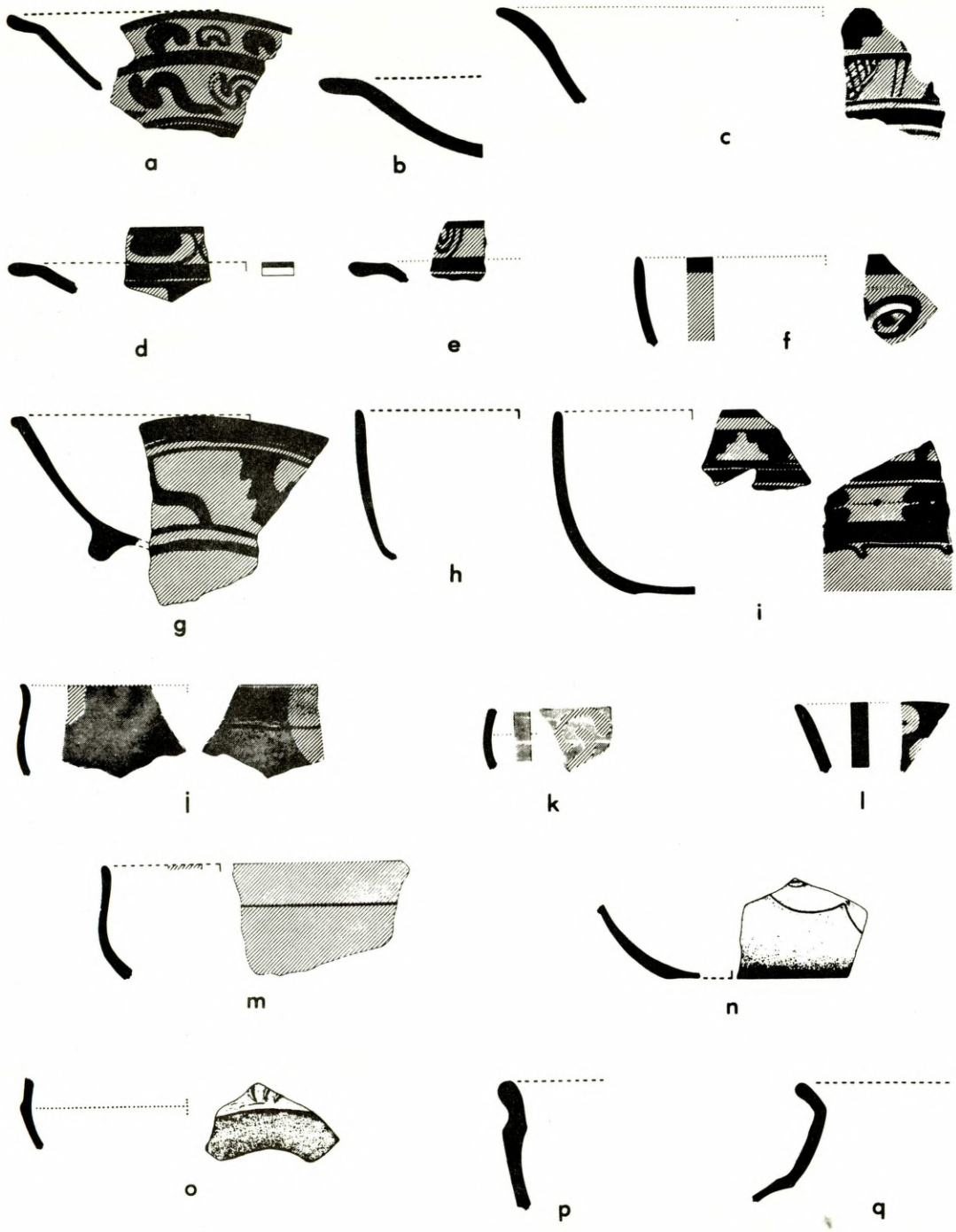


Fig. 9. Usumacinta floodplain (Trinidad), Taxinchan ceramic complex. f, Saxche Orange Polychrome; j, k, Egoista Resist. a, c-g, i, orange polychrome; h, cream, l, resist (orange), p, orange. m-o, incised; q, triangle-impressed. a, e, g, h, p, q, quartz temper; b, c, j, volcanic ash; d, quartz sand with sparse volcanic glass; f, l, carbonate; i, k, m, o, fine paste with volcanic inclusions. m, n, ancestral Fine Orange; o, ancestral Fine Gray.

in the Taxinchan basin and jar shapes, as shown in Fig. 9p, q. In sharp contrast to Palenque, striated, volcanic-ash tempered jars characterize Taxinchan and later developments at Trinidad. Impressed jar collars are common on these levels but are almost unknown at Palenque until after the Otolum complex; even then they are rare.

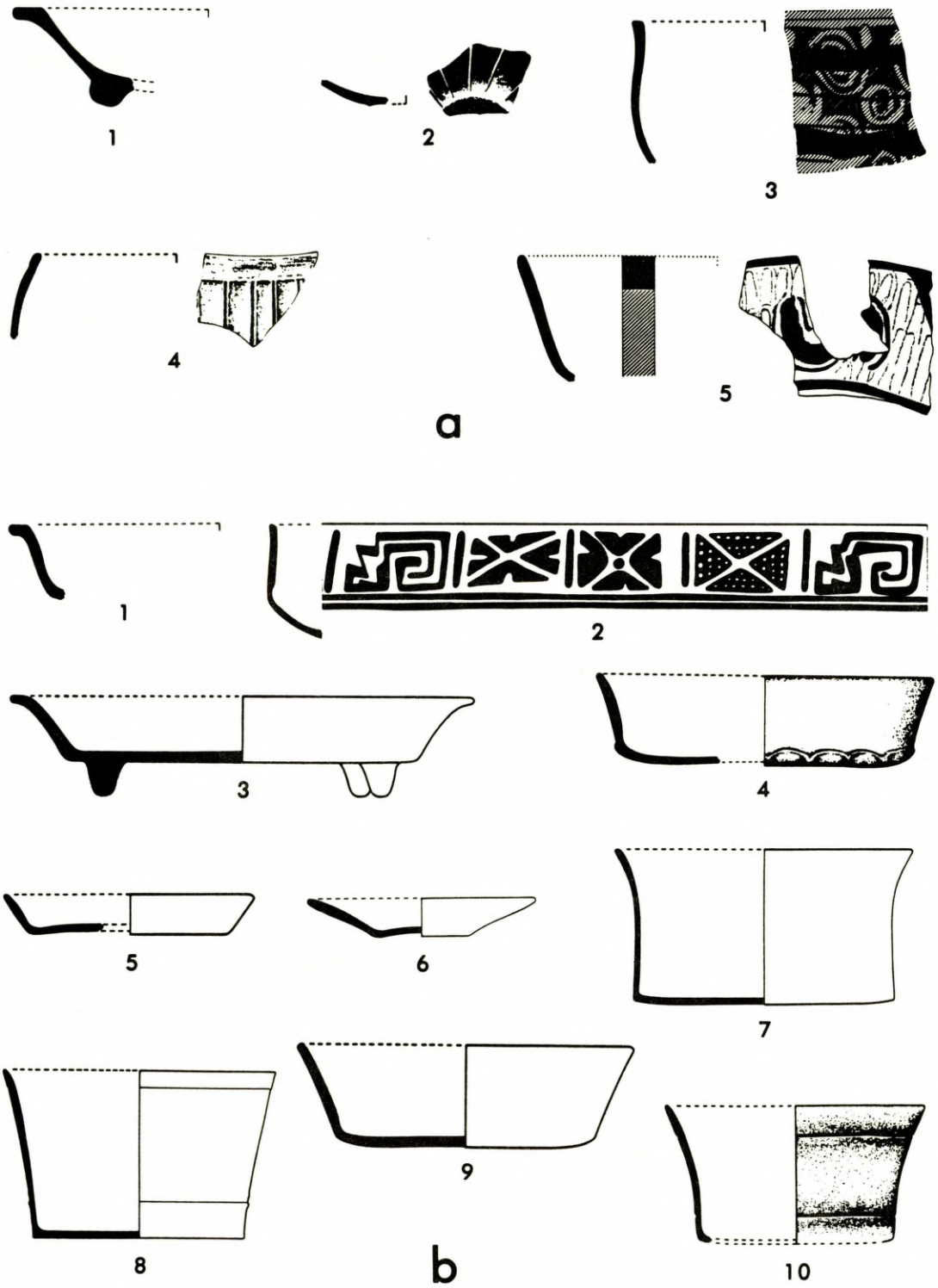
Late facet Taxinchan deposits include a few sherds that appear ancestral to, or are early examples of, Fine Orange and Fine Gray wares (Fig. 9m-o). Fine volcanic glass is sometimes present, apparently as natural inclusions in the clay. Similar glass inclusions characterize the paste of additional untempered Trinidad pottery, of the Taxinchan and other complexes; fine paste ceramics have a long history at the site.

Subsequent Classic Developments in the Usumacinta Floodplain: The Naab Complex of Trinidad

The Naab complex at Trinidad is here divided into early and late facets. Differences may be sufficient to justify the recognition of separate ceramic complexes. In a general way, late-facet Naab corresponds to part of the Jonuta horizon of Berlin (1956). (See the provisional modification of Jonuta advanced in Rands 1973, but this is not an adequate resolution of ceramic change at the beginning of the Terminal Classic.)

As Naab is compared with Taxinchan, red, black, and unslipped surfaces tend to replace orange in the serving pottery. A hard, cream-white slip is occasionally present in both complexes. Declining in early-facet Naab, polychromy may be totally absent by the end of the complex. Resist painting continues (Fig. 10a3), gaining importance relative to polychrome. Surface alteration such as incising and fluting increases (Fig. 10a2-4). Everted rims continue on Naab dishes (Fig. 10a1), width of the eversion showing a wide range of variation. Some of the early facet pottery, and to lesser degree that of Taxichan, is reminiscent of slate ware in surface characteristics.

Fig. 10. a, Usumacinta Floodplain (Trinidad), Naab ceramic complex. 5, Chimbote Cream Polychrome. 2, black; 3, smudged-incised resist (orange). 2, 3, incised; 4, fluted. i, quartz temper; 2, fine paste with volcanic inclusions; 3, volcanic ash; 4, fine paste; 5, fine paste with carbonate inclusions. 4, phytolith-rich (no volcanic glass). b, Palenque, Murcielagos ceramic complex. 2, resist (cream); 5, 8, black. 4, thumb impressed; 10, incised. 1-4, 6, 9, 10, quartz temper; 5, fine paste; 7, 8, fine paste with sparse volcanic inclusions.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The fine paste tradition intensifies, first in cream paste pottery and, by late Naab, in Fine Gray ware. Until the Early Postclassic Silho horizon, Fine Orange ware is unimportant. Thus, continuity cannot be traced at Trinidad between the "ancestral" Fine Orange and Fine Gray of Taxinchan and the later occurrences of these wares.

Post-Otolum Developments in the Low Sierras: The Murcielagos Complex of Palenque

Within the sustained brown paste tradition, the wide everted rim dish or plate, which in Otolum held a monopoly on ceramic decoration, disappears. Direct rim plates are common in Murcielagos (Fig. 10b3, -5, -6, -9) and rim eversion, also common, returns to a size and shape configuration reminiscent of the Early Classic Motiepa dishes (cf. Figs. 7a-d, 10b1). The height-width ratio is, however, reduced. By the close of the Murcielagos complex, basins achieve essentially the size and shape that, in this paste, carries through Balunte (cf. Figs. 11a3, 11b2). In the same paste, a spectacular Murcielagos elaboration occurs in ornate, flanged-incensario stands, developments which may have been initiated as early as terminal Otolum (Rands et al. 1979; Bishop et al. 1982).

Polychromy declines sharply in Murcielagos, and resist may be the principal, or at least most elaborate, form of painted decoration (Fig. 10b2; Rands 1973: Fig. 27). Techniques of surface alteration attain new importance, some continuing into Balunte; these include the use of impressed fillets, circumferential incised lines, and incised hachure (cf. Figs. 10b4, -10, 11a2, -5, 12a, c, f). Characteristic of Murcielagos are vertical grooving (Fig. 11a4) and complex incised designs, often on cream slip cylinders (Fig. 11a2; Rands 1973:Fig. 28). On the cylinders, horizontal fluting sometimes serves to delimit design fields.

Within Murcielagos, a drift is discernible in serving bowls. Often fine textured, these thin walled vessels tend to become deeper with more markedly flaring sides, trends that anticipate the Balunte complex (cf. Fig. 10b7, -8, -10, -12).

Relaxing of boundary phenomena in the low sierras is possible on the Murcielagos horizon, yet ceramic assemblages are by no means carbon copies of Palenque. Among other factors, differences may reflect sampling distinctions in ceramic use at sites of different size or social complexity, and intensity of contact. That sheer distance is a factor is suggested, for example, by the probability that Chancala moves more closely into the Palenque ceramic orbit than does more distant Chinikiha.

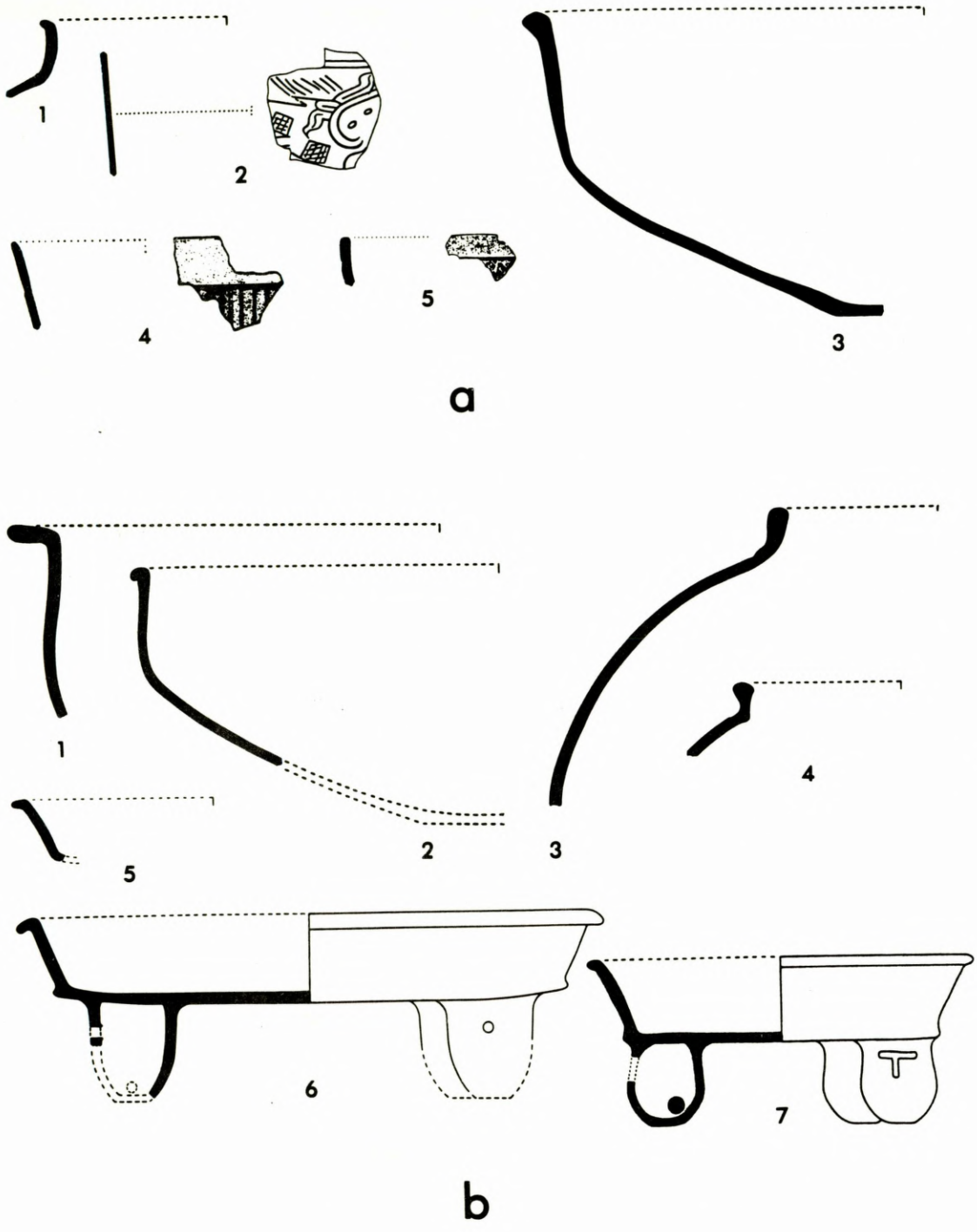

Fig. 11. Palenque, Late Classic. a, Murcielagos ceramic complex. 2, cream; 5, red. 2, 5, icised; 4, grooved. 1-3, quartz temper; 4, fine paste; 5, fine textured with numerous volcanic inclusions. 1, 2, 4, phytolith-rich (no volcanic glass). b, Balunte ceramic complex. 7, Chablekal Gray (black surface). 1-6, quartz temper. 1,3, 4, phytolith-rich (no volcanic glass).

Late Classic Stability and Change in the Low Sierras: The Balunte Complex of Palenque

A division of the Balunte complex into early and late facets appears useful. Continuity with previous patterns is sufficient in certain classes of pottery to suggest that the early facet could be regarded as an extension of Murcielagos. Other ceramic classes show discontinuity, some of the new patterns lasting throughout Balunte. This is a repeated problem in archaeological periodization and, in attempting to resolve it, I here use a slightly different cutoff point for the Murcielagos-Balunte separation than was employed previously (Rands 1974). Beyond the commonly encountered problems of chronological assessment, it appears that difficulties in working out a satisfactory synthesis reflect a high degree of culture-historical complexity shortly before the beginning of the Terminal Classic period. We are not yet at the Classic Maya collapse but are approaching it.

Changes within the sustained brown paste tradition are first outlined, followed by a summary of developments characterizing the buff/brown/gray-paste subcomplex. This approach, if followed out in detail, would yield a fourfold division of Balunte: early and late facets crosscut by traditional and novel approaches to ceramics. Cultural phenomena, of course, are never quite that neat, and in some respects the late facet may reflect a reassertion of traditional ceramic behavior.

Unslipped monochromes dominate the traditional brown paste pottery. Dishes of the early facet show continuities with Murcielagos, including small to medium flat everted rims (cf. Figs. 10b1-3, 11b5). Characteristics of late facet dishes include large hollow feet and rounded, downward everted rims (Fig. 11b6). Although present in Murcielagos, large, vertical walled basins angling to a flat base are most common in Balunte (early and late facets); a trend from bolstered to rolled or slightly everted rims is indicated (Fig. 11a3, b2). Thumb-impressed fillets sometimes occur on this form (Rands 1974: Fig. 13e). Brown paste dishes and serving bowls are often burnished, and this may be a Balunte diagnostic. However, specimens showing this surface finish occur in contexts promoting good preservation, and a similar polished surface may originally have been present on many of the matte-appearing ceramics dating from earlier complexes.

Early facet Balunte is marked by the effective appearance or rise in frequency of new paste classes, here grouped into a single subcomplex. Some, such as Fine Gray ware, have long distance affiliations. Other classes of pottery, tempered and untempered, indicate an intensification of short distance exchange or, as a

possible alternative, the substantial utilization of new clay sources in local production. Because of stylistic differences from functionally-equivalent shape classes of the brown paste tradition, parsimony favors exchange.

The designation of these new ceramics as a buff/brown/gray-paste subcomplex recognizes overlap with and differences from the brown paste tradition. Pastes tend toward yellow (7.5YR-10YR refired hues are common and 5YR well represented, contrasting with 2.5YR-5YR of the traditional ceramics). The tempering material is quartz, as in the brown paste tradition. Although a range in other technological and petrographic data exists within the subcomplex, commonalities contrasting with the traditional brown paste pottery are emphasized here. Except for the reduced Fine Gray ware, thin, sharply defined oxidized surface layers accompanied by wide black cores are characteristic (see Rye 1981:117-118). Feldspar and mica inclusions are less abundant in the clay matrix and more highly weathered. Opal phytoliths, derived from silica-accumulator plants, occur in relatively heavy concentrations. That the phytoliths are natural inclusions in the clay, rather than resulting from the use of plant products as temper, is indicated by covariation with other petrographic variables, paste color and chemical profiles (Rands and Bishop 1980; Rands and Bargielski 1986). Phytolith-rich materials of the Usumacinta floodplain, which contain heavy concentrations of volcanic glass and are chemically and stylistically distinctive, are not included in this subcomplex. It should further be noted that a rough approximation of phytolith concentrations is obtained with the binocular microscope, so the use of this variable is not dependent on thinsection analysis. In connection with paste color (unrefired or refired) and presence/absence of black cores, extensive technological sampling to assess the buff/brown/gray subcomplex is possible. Refined inferences, of course, require a linkage of these approaches with data from the smaller samples having petrographic and trace elemental analysis.

Monochrome ceramics, mostly unslipped, predominate in the buff/brown/gray subcomplex as well as in the traditional pottery of Balunte. Smudged black surfaces and incising are, however, much better represented in serving vessels of the subcomplex. Present in the early facet, subcomplex dishes compare closely in shape to those of coeval brown paste examples such as that in Fig. 11b5. Subcomplex dishes are largely lacking from the late facet (although see Fig. 11b7). Throughout Balunte, the basin is common in both the subcomplex and the traditional brown paste. Usually light buff, the subcomplex basins are characterized by wide everted rims and exterior surfaces slightly roughened by temper dragging (Fig. 11b1; contrast 11b2). Jars dominate the subcomplex in both facets of

Balunte, approaching the status of a "type fossil." In contrast to a Late Classic trend, necks are short and stubby; in contrast to the Early-Middle Classic jar tradition, necks are vertical and upper walls gently sloping (cf. Figs. 6n-q, 7l, 8b7, 11a1, 11b3, -4). Temper is coarser than earlier in the Late Classic and temper dragging more pronounced; consistently quartz, temper differs from most jars of the Early and Middle Classic. An association of two of the subcomplex diagnostics, opal phytoliths and "buff" pastes, occurs with earlier jars, but this is greatly strengthened in Balunte.

Included in the subcomplex are materials showing varying degrees of affiliation with the Chablekal ceramic group of Fine Gray ware. The frequency of transitional specimens is, in fact, one of the reasons for treating Fine Gray as part of the subcomplex. Some pieces apparently antedate Balunte, and subcylindrical vessels--flat base bowls and beakers--suggest a progression from Murcielagos (cf. Figs. 10b8, -10, -12). The combination of incising and dentate stamping in the style of Telchac Composite is especially well represented, although petals, sometimes alternating with stamped, X-shaped motifs, are distinctive (Figs. 12a, b). The typical monkey design in Fig. 12e occurs on aberrant paste. In addition to bowls and beakers, Telchac-like decoration occurs sporadically on cylinders and jars (Rands 1974: Figs. 10a, 12c). Smudged black monochrome surfaces are common and, on refiring, occasionally reveal a zoned white slip; this treatment is more usual in the approximately contemporaneous Tamay subcomplex of Chacalhaaz at Piedras Negras (Holley 1983). The Chablekal-related pottery of Palenque includes fine, light buff paste with quartz tempered texture; even the reduced fine paste ceramics tend to be chemically distinctive for Fine Gray ware (Bishop and Rands 1982). Thus, Palenque's Fine Gray-like ceramics are distinctive in a broader Maya perspective and in relationship to the brown paste tradition at the site. Of interest, therefore, is a black, gray paste dish similar in shape to Fine Gray examples from Tecolpan, Tabasco, and to abundant plates of the brown paste tradition in late-facet Balunte (Figs. 11b6, -7; Berlin 1956: Fig. 4w, x).

Terminal Classic and Postclassic Horizon Markers

Stylistic antecedents of Fine Orange ware have been discussed elsewhere, with the recognition that this pottery is foreign to Palenque and its ceramic zone (Rands 1973). The poorly represented Huipale complex, as recognized in the low sierras, draws on Fine Orange pottery from Palenque and adjacent sites to achieve what Adams (1973:133) refers to as "usage complementarity." Pottery of the Silho ceramic group is known from Palenque and other locations in the low sierras. Also, a few

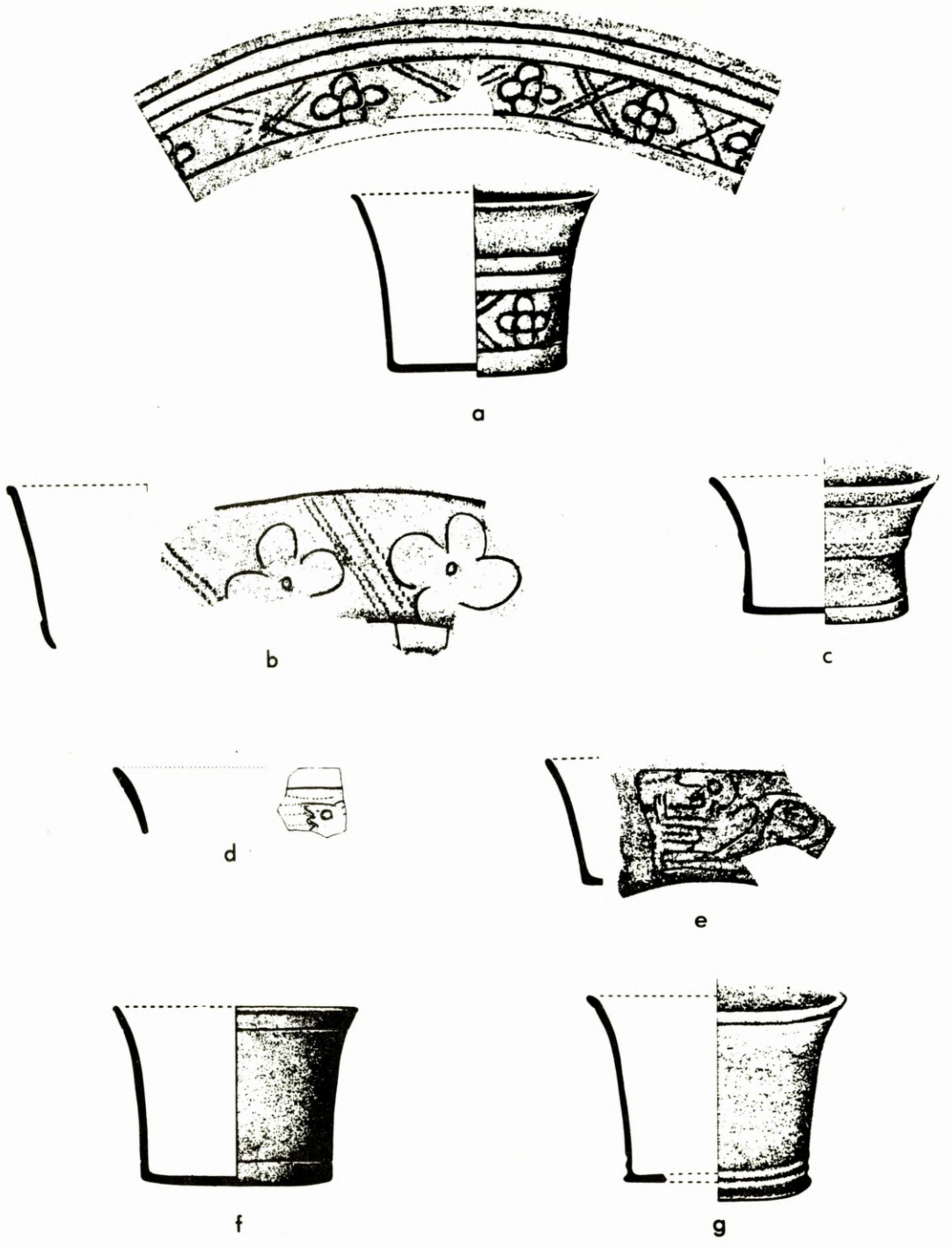

Fig. 12. Palenque, Fine Gray ware and decorative affiliates. a, c, f, late Murcielagos contexts; b, d, e, g, Balunte. a, b, d, e, incised-and-dentate-stamped Telchac Composite style (d, Telchac Composite type of Fine Gray ware). a, black; e, red. c, f, incised; g, grooved. a-f, fine paste; g, fine paste with sparse volcanic inclusions. Paste color (unrefired: a, red; b, e, orange-brown; c, f, gray; d, g, gray-brown.

Plumbate sherds have been found at Miraflores and El Sacrificios, in the low sierras.

Fine Orange ware is almost unknown from sites in the intermediate plains, suggesting that population growth toward the end of the Late Classic was not sustained. However, an explosive rise of the ware (Altar and Balancan ceramic groups) occurs in Terminal Classic levels at Calatrava, in the Usumacinta floodplain. The Postclassic Matillas group is also represented at the site. Terminal Classic developments are unknown at Trinidad, although pottery of the Silho group is present.

The Brookhaven National Laboratory's program of neutron activation analysis of fine paste ceramics (Sabloff 1982) has indicated general uniformity in Fine Orange ware produced in the Usumacinta drainage, although a refined level of analysis recognizes the existence of five geographically-spaced compositional groups. As defined in the present paper, the Usumacinta floodplain seems to be included in the homeland of two of these chemical paste compositional reference groups (CPCRUs). However, with the notable exception of the Silho ceramic group, Fine Orange ware sampled from Palenque and other sites in the low sierras diverges from the Usumacinta pattern (see details in the chapter by Bishop and Rands 1982). On this level of analysis, the insularity or pecularity of Palenque ceramics, as observed for Fine Gray ware in the Balunte complex and for ceramic patterns on earlier horizons, seems to last into the Terminal Classic period.

CONCLUDING REMARKS

Data presentation has been selective rather than comprehensive. Redundancy in text and illustrations emphasizes variation within ceramic traditions and horizon markers rather than documenting less diagnostic types and modes. Implications of the traditions for production and exchange have not been followed up here, although the detailed paste compositional and technological investigations hold special promise for such problems.

The following comments address the tradition concept. Mode-variation within a tradition serves as an index to low-level, elaborative change. Presumably, this kind of change is likely to involve the reworking of borrowed traits, accommodating them to those expectations of ceramic behavior that underlie a tradition. Of course, some changes may be internal in the sense that diffusion is not involved or that the outside stimuli came from potters (or consumers) sharing the local tradition. Incomplete replication furthers this process. The result, in any case, is perceived archaeologically as minor

modifications that may take the form of "drift." The Early-Middle Classic jar tradition of Palenque exemplifies this type of change.

On the other hand, abrupt changes may occur in the strength of a tradition, reflecting intensified culture contact or socioeconomic reorientations as the earlier patterns come into competition with alternative approaches. Concepts of ethnic identity or stylistic information exchange (Hodder 1979; Wobst 1977) may be especially appropriate at such times. Now, however, I would simply point out that abrupt changes, as viewed in archaeological perspective, may take the form of fundamentally different trajectories. One scenario leads to the disruption and termination of the tradition. The end of the Preclassic waxy wares would be an example. Decline in the tradition is measured by the frequency of alternatives to waxy surface finish--polychromes in Peten, matte red slip or grooved unslipped pottery at Palenque. A second scenario supposes that the tradition loses importance temporarily but later regains vigor, being maintained in only slightly altered form after the alternatives have disappeared from the local archaeological record. In this situation the subcomplex, as used in the present paper, has theoretical and methodological significance.

I refer to two subcomplexes of Palenque. One is the gloss subcomplex of Motiepa, in which stimuli, apparently from Piedras Negras or ceramically related sources, provided an archaeologically visible but relatively short-lived alternative to Palenque's brown paste tradition. Problem-oriented excavation, directed toward elite and residential contexts, is needed to examine processes underlying cultural change and the maintenance of cultural stability. The case in the buff/brown/gray paste subcomplex of late Murcielagos and Balunte is somewhat different. The subcomplex coexists with the brown paste tradition, but we do not have satisfactory temporal perspective to assess its consequences. Would the brown paste tradition have been maintained had it not been followed closely by the Classic Maya collapse, or are we dealing with a series of events anticipatory to and interwoven with the collapse? What is the historical relationship of Palenque's relatively rapid exposure to the Fine Gray and, subsequently, Fine Orange phenomena? If we are dealing with events that may be characterized as site intrusion, what were the mechanisms by which a sizeable flow of subcomplex Balunte ceramics, including utilitarian pottery, was maintained? Related to these questions but on another level of analysis, what are the social, economic, and historical factors underlying the data that have led me to lump, in a single subcomplex, the exotic Fine Gray ware with jars and basins that surely were produced in the general region of Palenque?

This leads to a final observation, regarding the "reality" of such constructs as traditions and subcomplexes. Clearly, these can be formulated in different ways, according to diverse problems, with the hope of achieving increasing approximations of past social and historical phenomena. Among these approaches, technological and paste compositional studies provide special perspectives and strengths. On this level we are dealing with environmental as well as cultural factors (Arnold 1985), but the term tradition does not seem inappropriate in a theoretical framework that posits close interaction between man and nature. Ideally, technology and style should be integrated in the investigation of ceramic traditions, but for Palenque styles of vessel shape have to be substituted, to a significant degree, for styles of surface finish. The avenues for communicating type-variety information are hindered by this approach, and this is unfortunate. However, an emphasis on vessel form and function may be overdue.

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11

Preclassic Ceramics from the Salama Valley, Baja Verapaz, Guatemala

Robert J. Sharer and David W. Sedat

This paper summarizes the analysis of Preclassic pottery from the Salama valley, Baja Verapaz, Guatemala, an intermontane basin covering ca. 74 sq. km in the northern Maya highlands, located north of the Motagua River and some 60 km north-northeast of Kaminaljuyu. The Salama valley region was investigated by the Verapaz Project of the University Museum, University of Pennsylvania, over a period of 30 months during 1972-74 by archaeological reconnaissance, survey, and excavation. This research located 24 prehispanic sites within the valley, sampling 20 of these by surface collections and 9 by excavations. The goals of these investigations were directed toward the Preclassic period and the reconstruction of both internal (regional) socio-political evolution and external (inter-regional) interaction. The full report of this research will be published in the near future (Sharer and Sedat, in press).

THE POTTERY SAMPLE

The classification of the pottery collection gathered by the Verapaz Project's investigations in the Salama valley follows the type-variety-mode (hereafter TVM) taxonomy based primarily on vessel surface attributes (see Gifford 1976) and now almost universally used in the Maya area. The TVM units defined by this research are the ceramic variety, type, group, and complex (Gifford 1976:9-11, 17-18). As is customary, the nondescriptive portion of the binomial names used to designate the varieties, types, and groups are taken from local geographical place names; the ceramic complexes are named after Kekchi Mayan words.

A total of 32,320 pottery sherds and 200 whole or reconstructable vessels (including incensarios and their lids) was recovered by the project investigations. All

the whole or reconstructable vessels were studied and classified by form, except for a few examples that were too fragmentary or eroded for assessment. Although all the sherds were examined in the field laboratory, because the original research goals were directed to the Preclassic period, only the pottery sherds from this era were thoroughly analyzed and designated according to the TVM system. In addition, only 12% (4,053) of the sherd collection corresponded to the later periods (Classic and Postclassic), and this provided a sample insufficient for TVM classification.

The Preclassic portion of the collection represents 88% (28,267) of the sherds and 67% (136) of the vessels recovered. Of the sherds, 32% (9,116) possessed the size and sufficiently preserved surfaces to allow confident TVM classification. The remaining 68% (19,151) were either too small or too eroded to identify accurately by type.

The sherd collection analyzed by the TVM system, like the whole vessels, was classified by form utilizing the rim fragments large enough to permit reliable assessment of original shape. The overall form of vessels was classified according to the categories listed in Table 1. A series of form modes was also defined (Table 2).

THE POTTERY SEQUENCE

A chronological sequence for the Preclassic period in the Salama valley has been established by the definition of ceramic complexes, according to TVM procedures (Gifford 1976:11-12), but note that many TVM units overlap the arbitrary complex boundaries. Lacking long-term stratified primary deposits, this chronology is based on a seriation of associated pottery from 35 excavated (caches, burials, and short term refuse) deposits. Comparisons and seriation of material from secondary contexts (surface and construction fill) fleshed out the typology and sequence. The dating of the defined ceramic complexes is approximate, but it is anchored by a series of six radiocarbon dates.

The developmental trends seen in the Preclassic pottery sequence defined for the Salama valley are summarized by ceramic complex, including a resume of its component type-variety units, decorative modes, vessel forms, and a synopsis of the external relationships. The sequence of form classes and modes is tabulated in Table 3.

Xox Ceramic Complex (ca. 1200-800 BC)

The initial pottery complex defined for the Salama valley is characterized by a greater diversity of

Table 1. Categories for Classification of Overall Form of Vessels.

1. Simple bowls (normally, vessels with diameter greater than height).
   - A. Flared walls
   - B. Rounded walls
   - C. Restricted walls
   - D. Vertical walls
   - E. Out-curved walls
   - F. Vertical-recurved walls
2. Compound Bowls (combinations of above wall forms).
   - A. Flared or slightly out-curved lower wall with upper wall that is:
     - B. Rounded
     - C. Restricted
     - D. Vertical
     - E. Out-curved
   - B. Rounded lower wall with upper wall that is:
     - A. Flared
     - C. Restricted
     - D. Vertical
     - E. Out-curved
   - C. Restricted lower wall with upper wall that is:
     - A. Flared
     - C. Restricted
     - D. Vertical
     - E. Out-curved
3. Jars (vessels with height greater than diameter and restricted orifice) with neck that is:
   - A. Flared
   - B. Rounded
   - C. Restricted
   - D. Vertical
   - E. Out-curved
   - F. Neckless
   - BE. Rounded Out-curved
4. Special Forms
   - A. Incensarios
   - B. Covers

decorative modes and fewer variations in vessel form than any of its successors. It has been divided into two facets based on relatively minor shifts in content of both type-variety units and decorative modes (early facet ca. 1200-1000 BC; late facet ca. 1000-800 BC).

Red monochromes are more prevalent in the Xox complex than at any subsequent time. The Sachaj group (Fig. 1) is distributed across both the early and late facets, although it is probable that one of its types, Payaque Zoned-red (Fig. 1d, e), is more representative of the

Table 2. Definition of Form Modes

Rim Codes
- R1 Direct
- R2 Thickened
- R3 Exterior thickened
- R4 Interior thickened
- R5 Everted
- R6 (s) Scalloped rim

Base Codes
- B1 Flat
- B2 Slightly rounded
- B3 Rounded
- B4 Dimpled
- B5 Ring
- B6 Pedestal

Appendage Codes (all supports are tripods unless otherwise noted).
- A1 Nubbin (solid)
- A2 Slab (solid)
- A3 Hollow conical
- A4 Hollow hemispherical supports
- A5 Hollow bulbous supports
- A6 Hollow mammiform supports
- A7 Hollow tall-conical supports
- A8 Hollow tubular supports
- A9 Hollow effigy supports
- A10 Vertical solid handles
- A11 Horizontal solid handles
- A12 Spouts

Flange Codes
- F1 Sublabial
- F2 Medial
- F3 Basal
- f Faceted

latter. The unslipped Beleju group (Fig. 2) begins in Xox times but continues long thereafter (through the Tol complex; see below) with few clearly diagnostic changes, except for the Cacrauch variety and Patul Incised, both typical of the subsequent Max complex (Fig. 2c, f, g). Three groups representing the unslipped Pachicaj (Fig. 3), cream slipped Turbala (Fig. 4), and red-on-cream Xola (Fig. 5) types appear generally limited to the early facet. Two groups that continue into the succeeding Max complex, the red slipped Chirrum group (Fig. 6) and the gray slipped El Congo group (Fig. 7), begin by the late facet of the Xox complex. Only the unslipped Chuachua group (Fig. 8) seems confined to the late facet.

Table 3. Form Mode Frequencies by Ceramic Complex

Vessel Forms	Xox	Max	Tol	Uc	Quej
Simple bowls					
A	39.0%	38.0%	35.0%	16.0%	3.0%
B	8.0%	11.0%	9.0%	12.0%	22.0%
C	1.0%	1.8%	2.0%	2.4%	9.0%
D	0.3%	1.6%	2.0%	2.0%	1.0%
E	1.6%	7.0%	17.0%	12.0%	14.0%
F	-	-	-	2 %	-
Compound bowls					
AB	-	-	5.0%	5.6%	3.0%
AC	-	-	-	0.5%	-
AD	-	0.2%	3.0%	5.0%	-
AE	-	-	0.3%	1.0%	-
BA	-	0.4%	3.0%	4.0%	-
BC	0.6%	-	0.3%	1.2%	-
BD	-	0.4%	2.4%	4.0%	-
BE	-	0.2%	3.2%	6.0%	3.0%
CA	-	1.4%	2.0%	0.5%	-
CC	-	-	0.3%	-	-
CD	0.3%	1.6%	0.6%	-	-
CE	-	1.4%	1.0%	0.5%	-
Jars					
A	-	6.0%	4.5%	16.0%	13.0%
B	1.0%	0.2%	-	-	-
C	-	-	0.8%	1.2%	-
D	19.0%	12.0%	3.0%	4.0%	-
E	-	16.0%	4.5%	5.0%	4.0%
F	29.0%	0.8%	1.0%	-	1.0%
Rim Form					
R1	53.0%	72.0%	65.0%	70.0%	77.0%
R2	10.0%	1.0%	-	-	1.0%
R3	15.0%	14.0%	2.0%	9.0%	4.0%
R4	10.0%	-	4.0%	1.0%	1.0%
R5	12.0%	13.0%	29.0%	16.0%	17.0%
R6(s)	-	-	-	4.0%	-
Appendages (actual counts)					
A1	-	-	-	-	1
A2	-	-	1	-	-
A3	3	1	-	-	-
A4	-	-	-	-	1
A5	-	-	-	-	5
A6	-	-	-	-	9
A7	20	1	-	-	1
A8	-	-	-	-	-
A9	-	-	-	-	-
A10	17	42	49	32	18
A11	-	-	-	2	-
A12	-	5	-	-	-
F1	-	1	30	4	-
F2	-	4	4	3	-
F3	-	-	-	2	1
f	-	-	-	5	-

Diagnostic decorative modes of this time interval include unslipped jars with elaborate modeled adornments (especially large vertical ridges, early facet), horizontal cut and punched appliques, effigy features, and more rarely, dentate and rocker stamping (early facet). Dark red washes occur in combination with some of these modes in minor frequencies, spawning a long-lived tradition of red daubed unslipped jars. Slipped types are characterized by specular hematite red (more frequent in the early facet), pallid red (prevalent in the late facet), cream (more common in the early facet), or gray (appearing in the late facet) surfaces that may be altered by smudging (zoned in the cream Turbala group), zoned slipping, or even reserving unslipped bowl exteriors. Types in both the cream Turbala and succeeding gray El Congo groups are defined by unslipped and intentionally roughened bowl exteriors. Bichromes include red-on-cream (red rim banding being especially typical of the early facet) and red slip or fugitive stucco painting on gray. Many slipped wares are further decorated by simple pre-slip grooving or, more rarely, by zoned punctations, incisions, and modeling.

Vessel forms are dominated by simple bowls with flat bases and flaring walls (39%), and tecomates or neckless jars (29%). Vertical necked jars (19%) and rounded wall bowls with flat bases (8%) follow in popularity. The remaining 5% of forms are almost equally divided between six classes (simple bowls with restricted, vertical, or outcurved walls; compound bowls with rounded-restricted or restricted-vertical walls; and rounded necked jars). Direct rims predominate (53%), although their frequency is less than in any succeeding complex. The four remaining rim forms are fairly equally represented; most of the exterior thickened examples (15%) are associated with bowl forms while the interior thickened rims (10%) are usually found on neckless jars.

Xox complex pottery has both form and decorative modal ties, along with general similarities in slipped wares, to pottery units defined from sites located both to the south (Pacific coast) and to the north (southern lowlands). Neckless jars, often with interior thickened rims and occasionally with tall conical hollow tripod supports, are similar to the Salama examples and characteristic of the Pacific coastal region during the Early Preclassic. Simple flat based flaring wall bowls are also typical of this southern area, as are exterior thickened rims, but these latter modes also characterize the earliest ceramics of the southern lowlands (Xe ceramic sphere) to the north. Decorative modes with strong southern links include dentate and rocker stamping, gray wares, specular hematite slipping, smudged cream types (white rim black ware), and exterior bowl roughening. Close affinities to the southern lowlands include similar

pre-slip grooving, along with horizontal cut and punched appliques on unslipped wares. Connections to sites in both areas include red daubing or zoned painting, red-on-cream slips, fugitive red and other stucco embellishments, and pallid red slips.

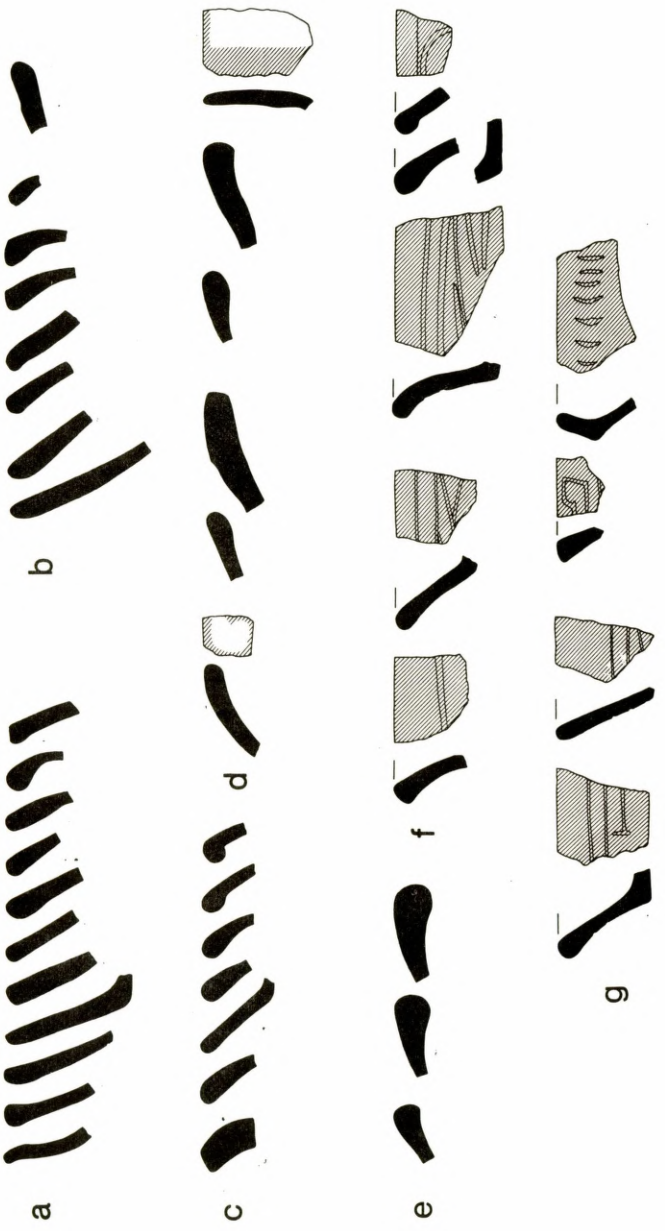
In addition to these, there are further ceramic links in a number of trade and special types recognized for this time interval indicating interaction with areas outside the Salama valley. Most of these represent wares of decorative modes not directly related to Salama valley types, and thus are probably imports (some may be local experiments). One of these, Special Fluted, seems to derive from the earliest tradition defined on the Pacific coast (Barra complex); another, Sacacoyo Brown, is from the Early Preclassic Tok complex at Chalchuapa in the southeastern highlands.

Max Ceramic Complex (ca. 800-500 BC)

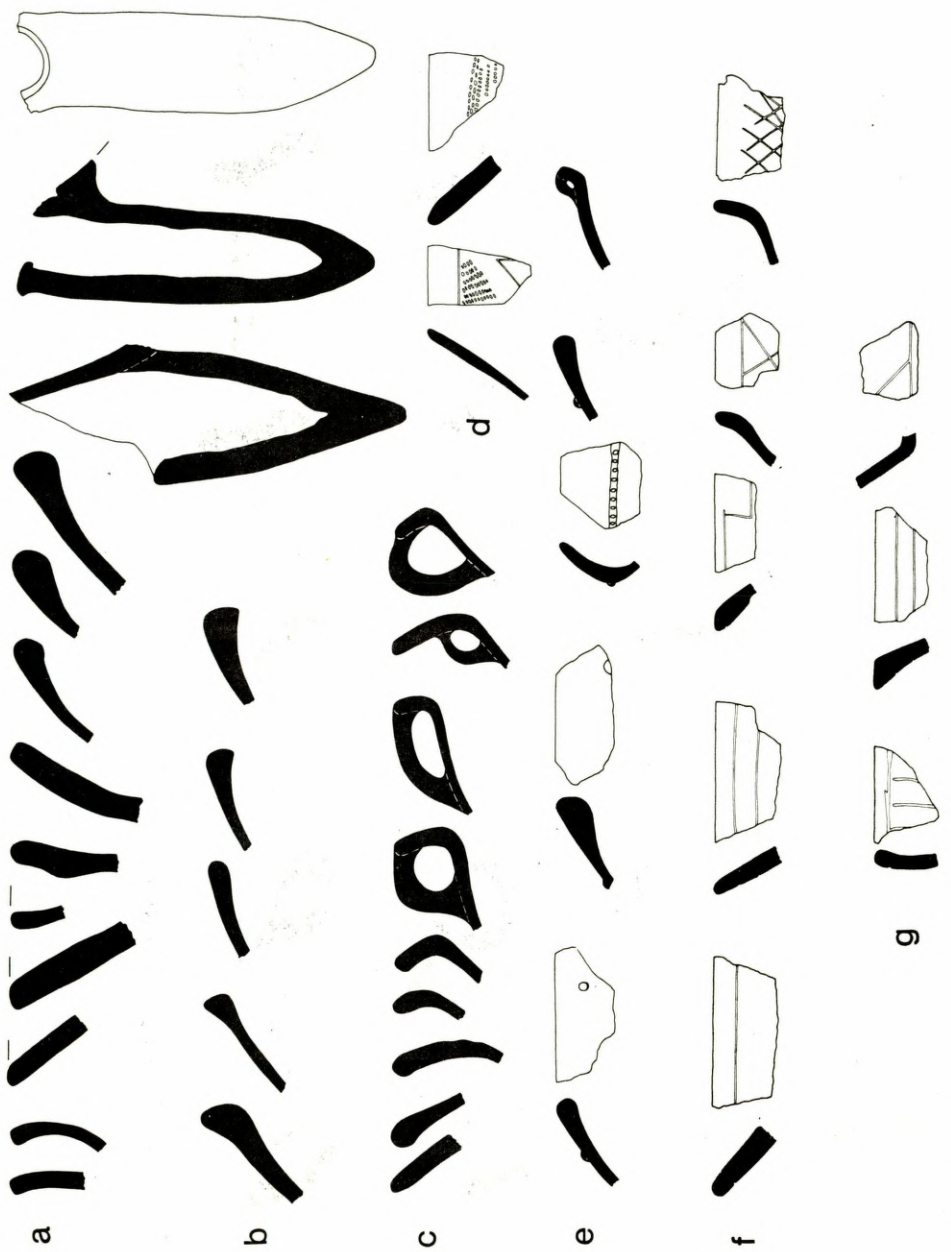
This complex is characterized by a series of modes typical of Middle Preclassic pottery from much of the Maya area. Types from three Xox complex groups, Chirrum (Fig. 6), El Congo (Fig. 7), and Beleju (Fig. 2), continue during this period. But the majority of groups are new, representing an expanded red-on-buff jar tradition and the initiation of black-brown and orange slipped wares destined to replace the earlier cream and gray tradition and dominate the earlier red slipped wares.

The first of these new groups, Chicaja (Fig. 9), represents the appearance of a fully developed red-on-buff jar assemblage, clearly descended from Xox complex prototypes. Although this tradition has a long-enduring heritage (continuous through the Classic period in many highland regions), it includes a series of decorative and form modes that allow typological distinctions having temporal and areal significance. In the Salama valley, the earliest examples are applique-fillet jars with a red wash that appears in the Xox complex (Suntun Red-painted, Fig. 3d, e, and Chuachua Applique: Red-painted variety,

Figs. 1-24. Preclassic pottery from the Salama Valley, Guatemala. Figs. 1, 2a, b, d, e, 3-8: Xox ceramic complex (ca. 1200-800 BC); Figs. 2c, f, g, 6, 7, 9, 10b-f, 11-13, 16, 18d, e: Max ceramic complex (ca. 800-500 BC); Figs. 2c, f, g, 9c, d, 10a, 14, 15, 18a-c, 19b-d, f-k, 20a, b, 22a, b, d-g: Tol ceramic complex (ca. 500-200 BC); Figs. 10a, 15a, b, 18f-i, 19e, 20c, d, 21, 22a, b, d-g: Uc ceramic complex (ca. 200-0 BC); Figs. 10a, 22c, 23, 24: Quej ceramic complex (AD 0-200).

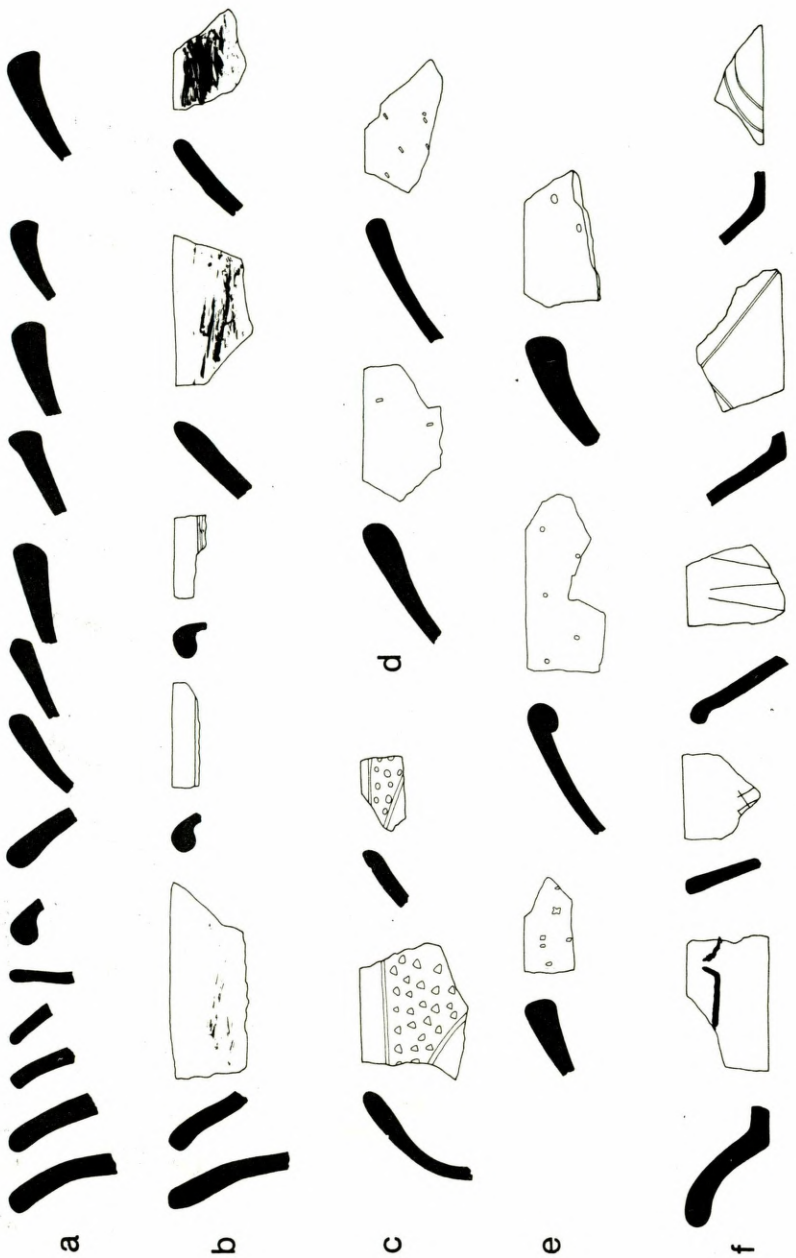


1. Sachaj Group



2. Beleju Group

3. Pachicaj Group



4. Turbala Group

a

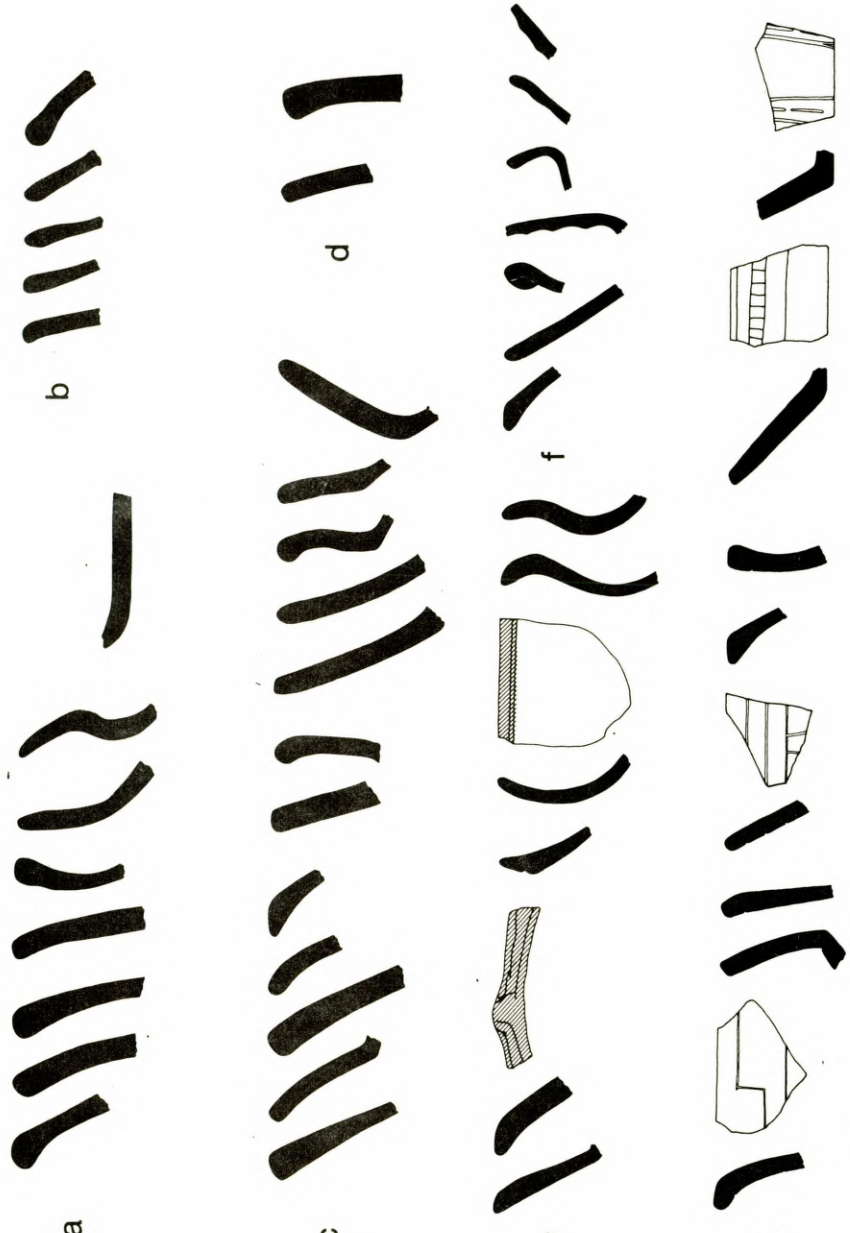
b

5. Xola Group

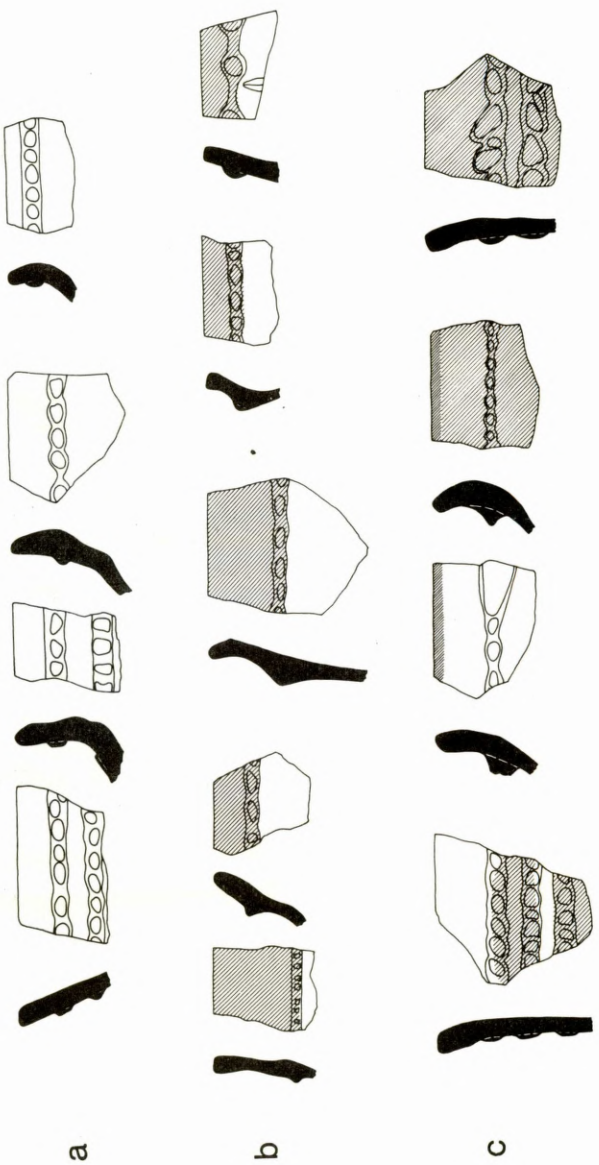
a

b

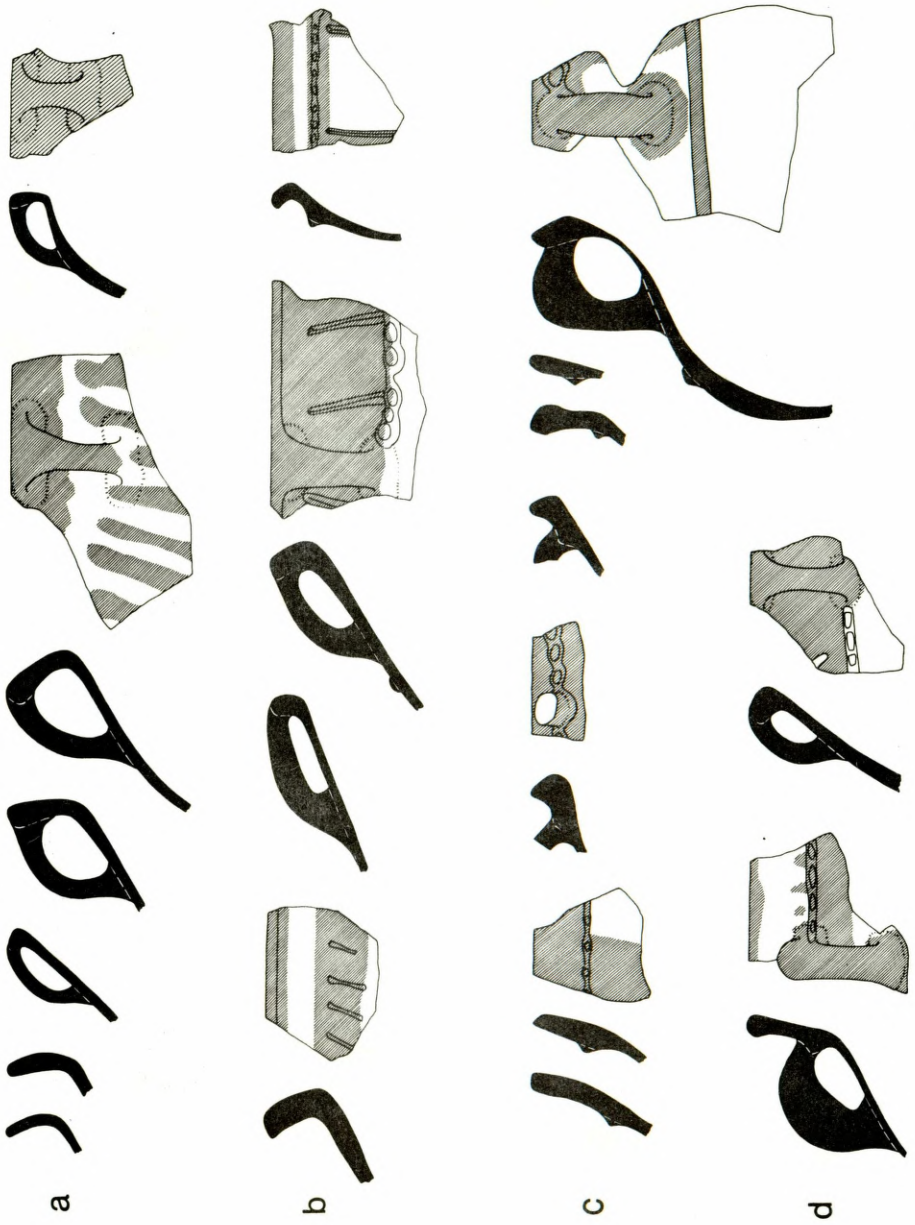
6. Chirrum Group



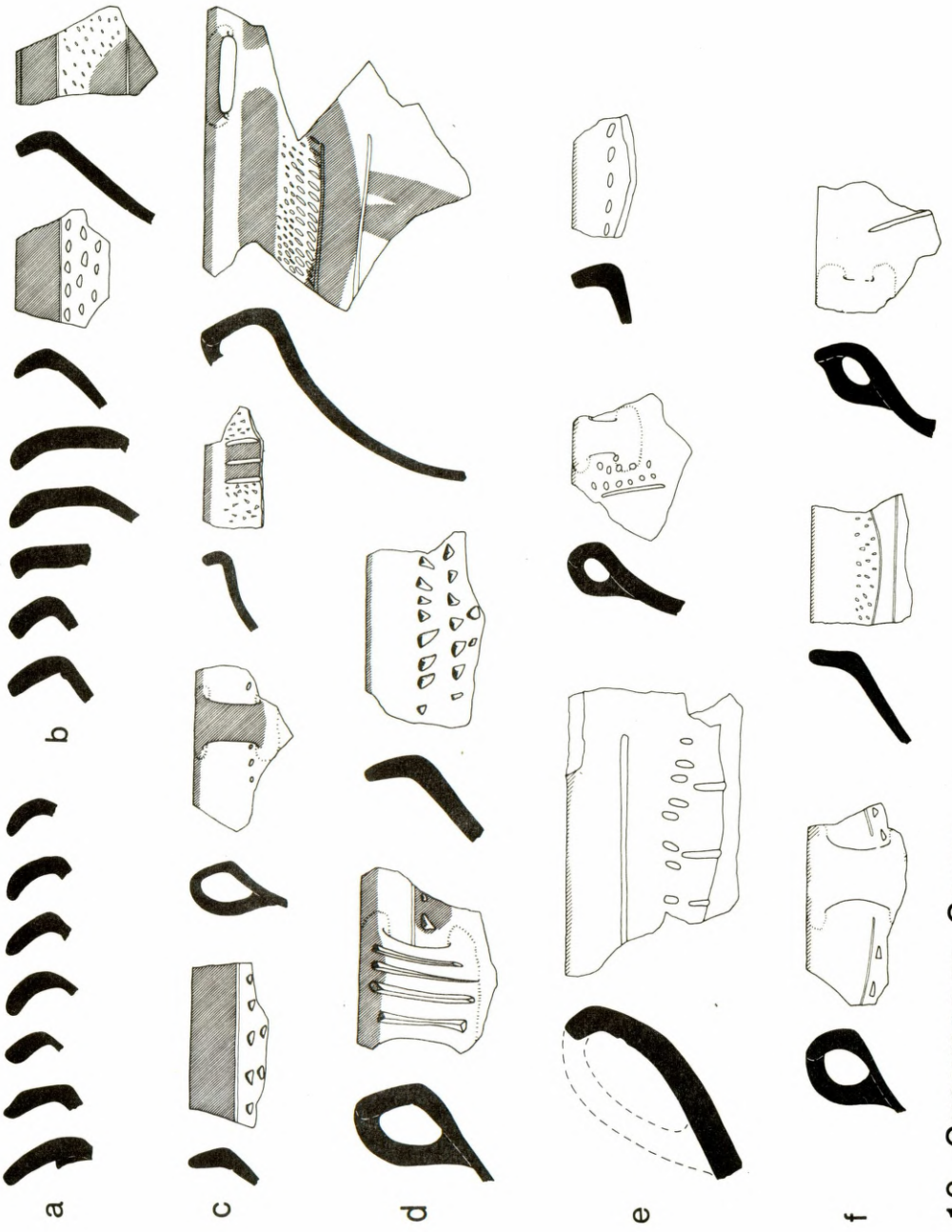
7. El Congo Group



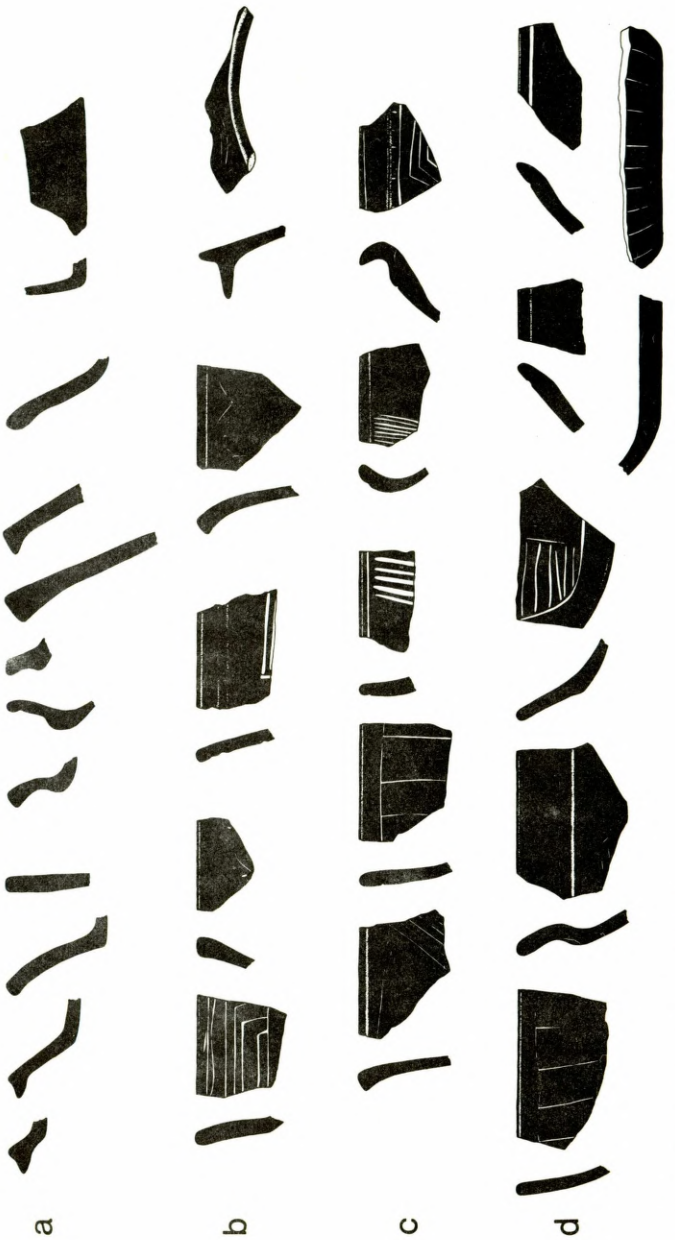
8. Chuachua Group



9. Chicaja Group



10. Guaymango Group



11. Chimacho Group

Fig. 8b, c). This tradition expands during the Max complex and is defined as Pachijob Applique (Fig. 9b-d). Its companion type, Chicaja Red-on-buff (Fig. 9a), represents the local beginnings of red daubed jars without the applique mode. At the same time, a related group (Guaymango, Fig. 10), probably evolved from the same Early Preclassic origins. It is distinguished in the Salama valley by the use of an often glossy slip paint (predominantly on the interior of the neck), along with punctations and striations (Pascubir Red-on-buff, Fig. 10b-d). Plain unslipped black pottery (Mumus group, Fig. 13) also appears during this interval.

The slipped wares beginning during Max times are the waxy blacks (Chimacho, Fig. 11), streaky browns (Choven, Fig. 12), and glossy oranges (Chopen, Fig. 18d, e). The first two generally correspond to this period and are succeeded by the later long-lived black-brown types. The Chopen group expands during the Late Preclassic to dominate the Salama valley ceramic assemblage, and its descendants appear to continue throughout the Classic era as well. A minor and distinct painted orange type (Pambach Red-on-orange; Fig. 16), is seemingly confined to the Max complex.

The decorative modes of the Max complex are less diversified than those of the preceding Xox complex, although the form inventory increases. Principal examples of decoration associated with unslipped wares are zoned punctations, incising, and red daubing (dull red wash and glossy slip paint), red wash combined with plain vertical or cut punctations. Slipped decorative modes include smudging, pre-slip grooving, and red slip painting (all descended from more common occurrences in Xox times), along with post-slip incising that becomes more popular in this and later periods.

The diversity of bowl forms expands in the Middle Preclassic. Simple bowls with flaring walls are almost as common as during the Xox era (38% vs. 39%), while the other forms all increase: rounded walled (11%), restricted walled (1.8%), vertical walled (1.6%), and out-curved walled (7%) bowls. The number of compound bowls increases to seven forms (vs. two in the Xox complex). Two new jar forms appear, flaring necked and out-curved necked, while the prevailing Xox form (neckless jars) almost disappears (0.8%). Vertical necked jars decline (12% vs. 19%) as do the rare rounded necked form (0.2% vs. 1%). Rim forms also shift in this period. Direct rims remain dominant but increase to 72%. Exterior thickened (14%) and everted rims (13%) remain nearly the same as before, but thickened rims decline (1%) and interior thickened rims disappear. Spouts are distinctive of this era, and the earliest examples of sublabial and medial flanges appear.

Preclassic Ceramics from the Salama Valley

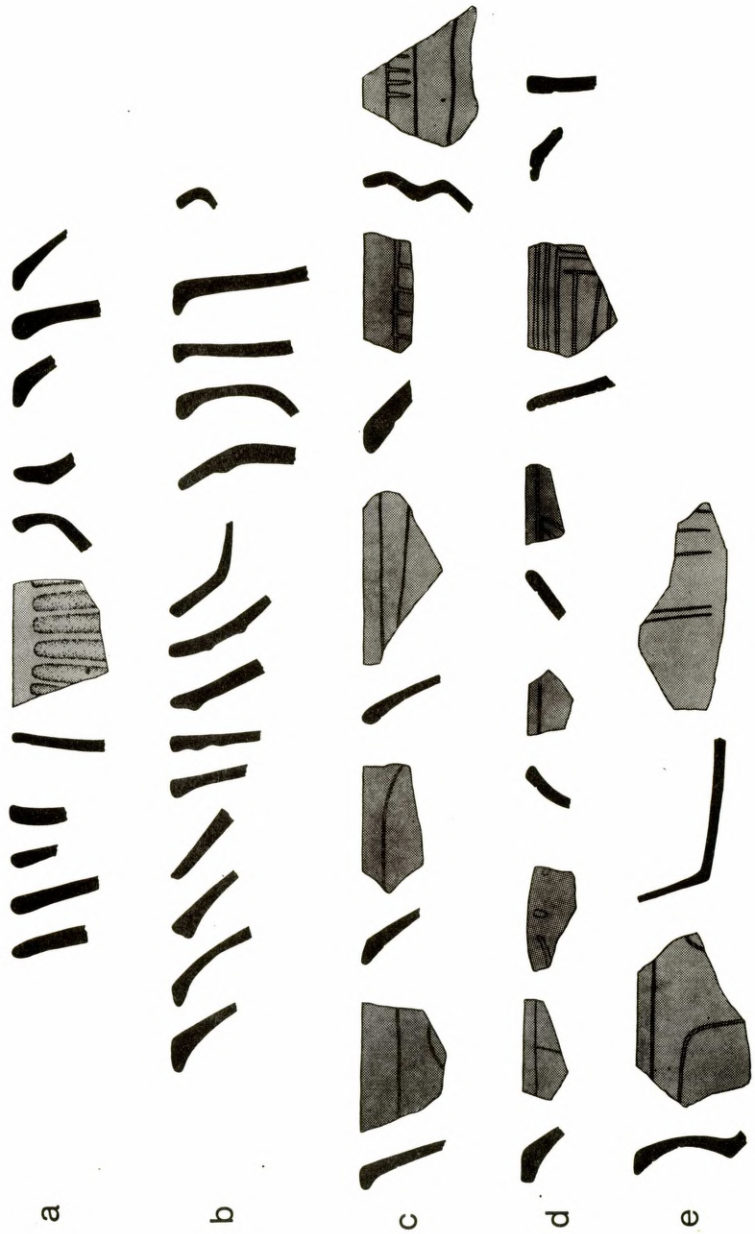
Several of the modes indicative of external connections continue from the preceding Xox complex (smudging, pre-slip grooving, red daubing or slip painting, and cut appliques) and reflect ongoing ties to regions north and south of the Salama valley. The red-on-buff jar decoration is especially close to Middle Preclassic traditions in both the southern highlands (Kaminaljuyu and to the east at Chalchuapa) and the Pacific coast. Its combination with cut appliques is tied to similar types at Chalchuapa and to the north in the Maya lowlands. The addition of striations is directly linked to lowland (Mamom ceramic sphere) wares. Plain zoned punctated jars are equated with examples from Kaminaljuyu and Chalchuapa. The waxy black slipped pottery (plain and grooved-incised) of the Max complex is closely related to a widespread Mamom tradition in the lowlands. Both the streaky brown and early orange types in the Salama valley appear related to similar wares found in the southern highlands and on the Pacific coast. Distinct trade and special types are reduced from the preceding Xox complex, although some of these earlier examples might pertain to this era.

Tol Ceramic Complex (ca. 500-200 BC)

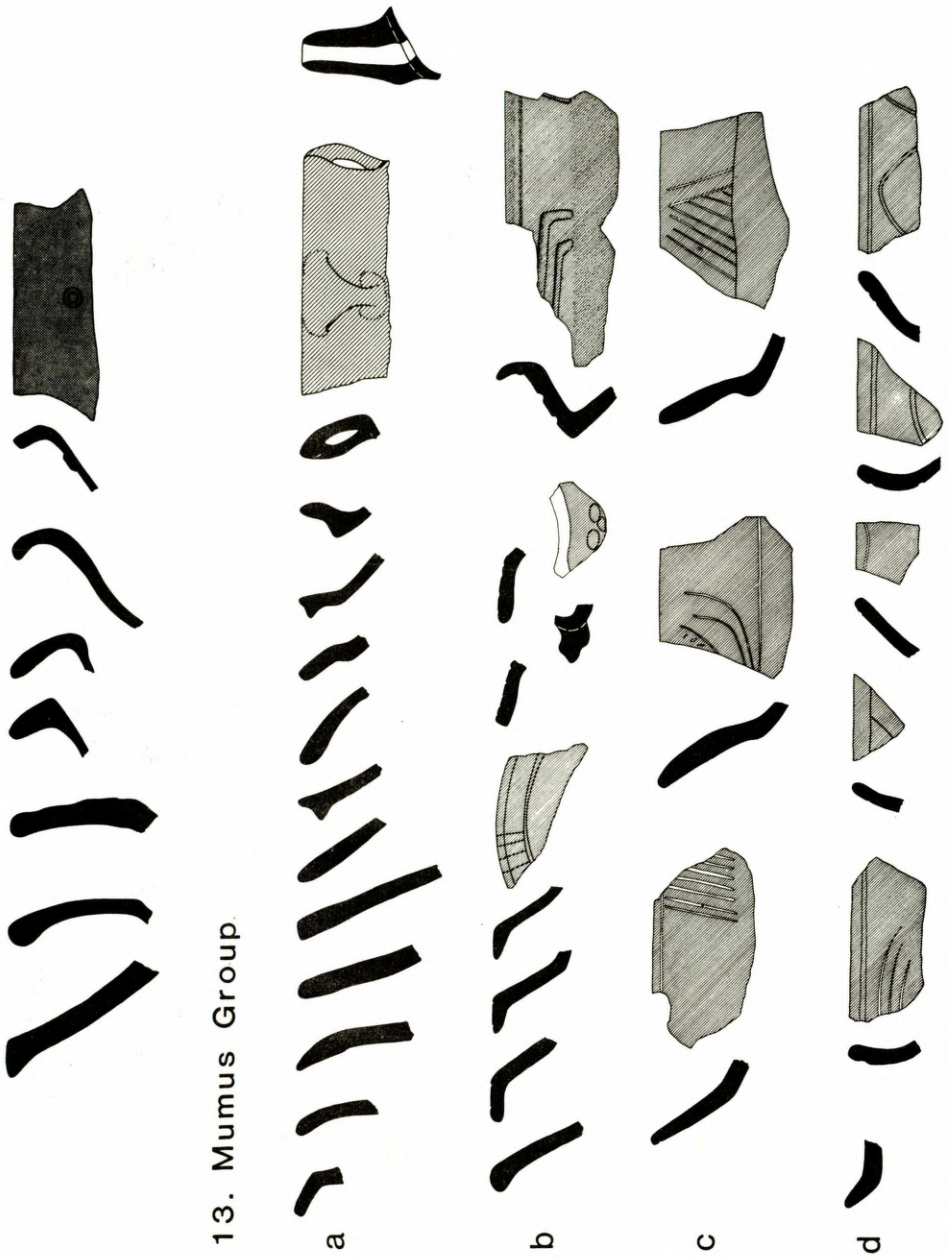
The Tol complex reflects many characteristics of the transition between the Middle and Late Preclassic eras. There are continuities from the preceding Max complex on the ceramic group level; but, except for the Beleju group, these comprise recognizably distinct type-variety units. In two cases, single types represent the last representative of their respective groups (Chicaja, Fig. 9, and Guaymango, Fig. 10). In the third case, five new units reflect the continued expansion of the Chopen group (Fig. 18a-c, 19b-d, f-k). In addition, the Tol complex is marked by the occurence of four new ceramic groups (Xinacati, Fig. 14; Cachil, Fig. 15; Ixloc, Fig. 17; and Pinos, Fig. 22).

The red-on-buff jar tradition is maintained by a late representative of the glossy slip painted style (Guaymango Red-on-buff: Polochic variety, Fig. 10a), and the expansion of the dull red daubed tradition (Cachil group Fig. 15). In both examples, the combination of red daubing and applique decoration disappears during this interval, although the latter mode is sustained by the final unit of the Pachojob (Chuara variety, Fig. 9c,d). Otherwise, the decoration of unslipped wares is greatly reduced from previous periods.

Slipped pottery is represented by an expansion of the orange wares, along with an emphasis on more lustrous surface finishes (Chopen and Ixloc groups, Figs. 17-20). There is also a shift in the far less important red tradition (Xinacati group, Fig. 14), and the appearance of

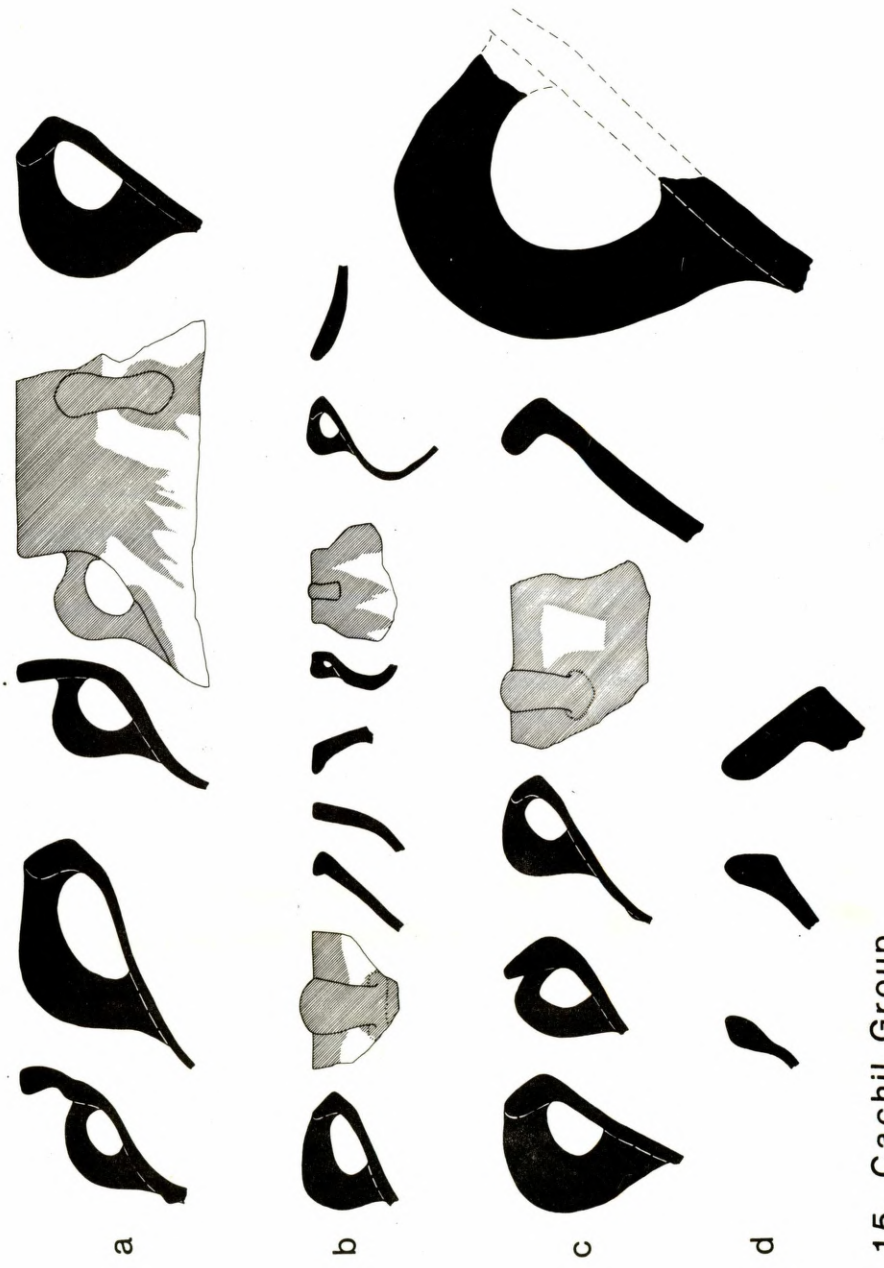


12. Choven Group

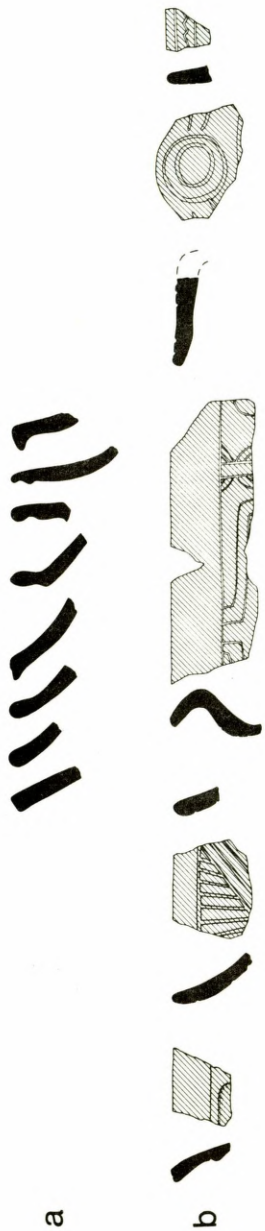


13. Mumus Group

14. Xinacati Group



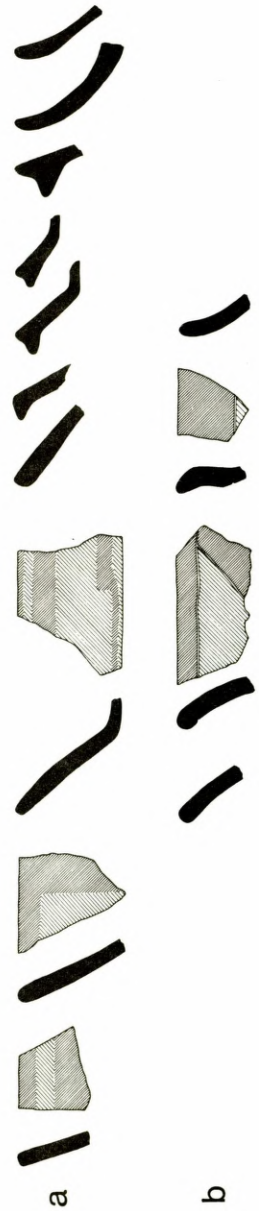
15. Cachil Group



a

b

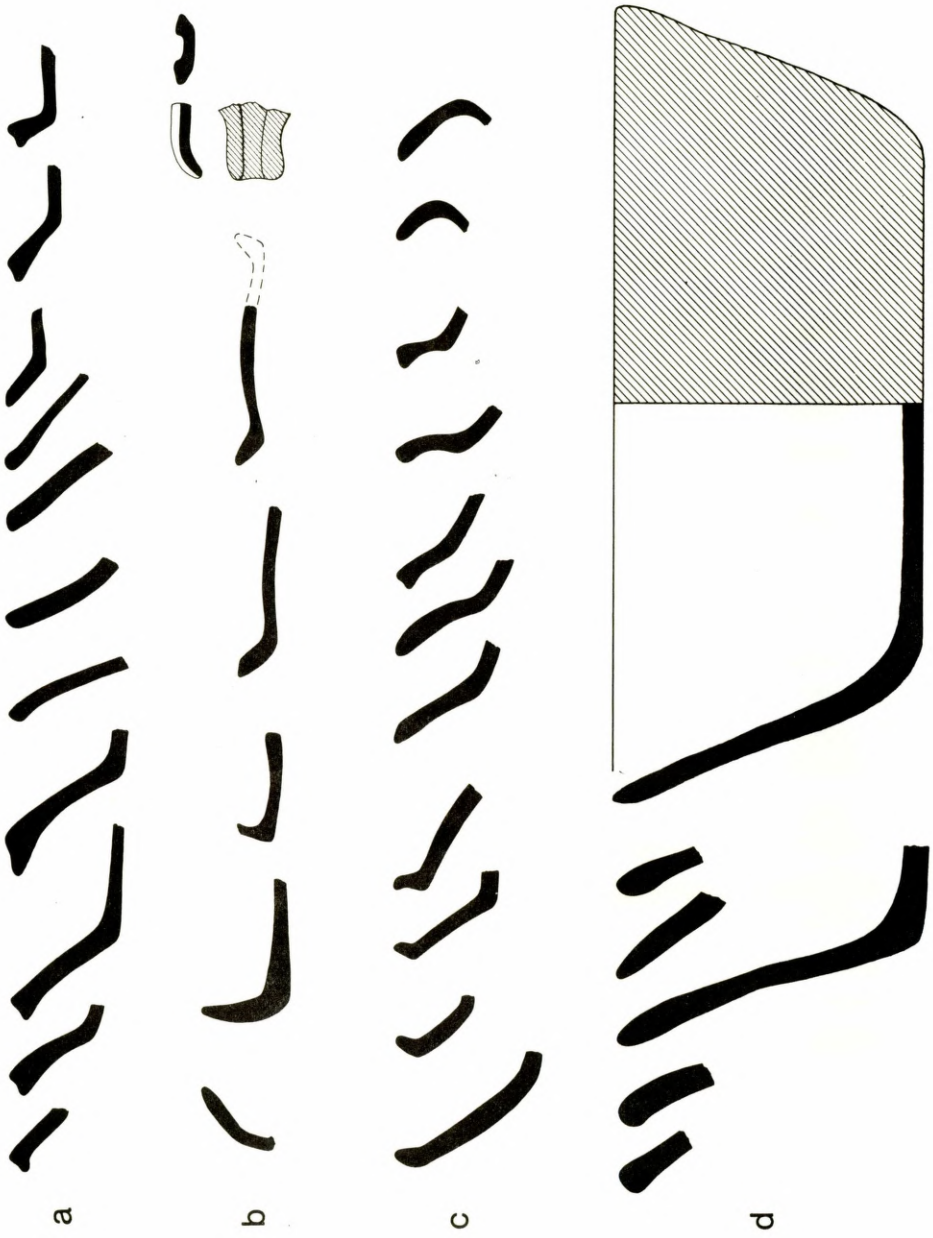
16. Pambach Group

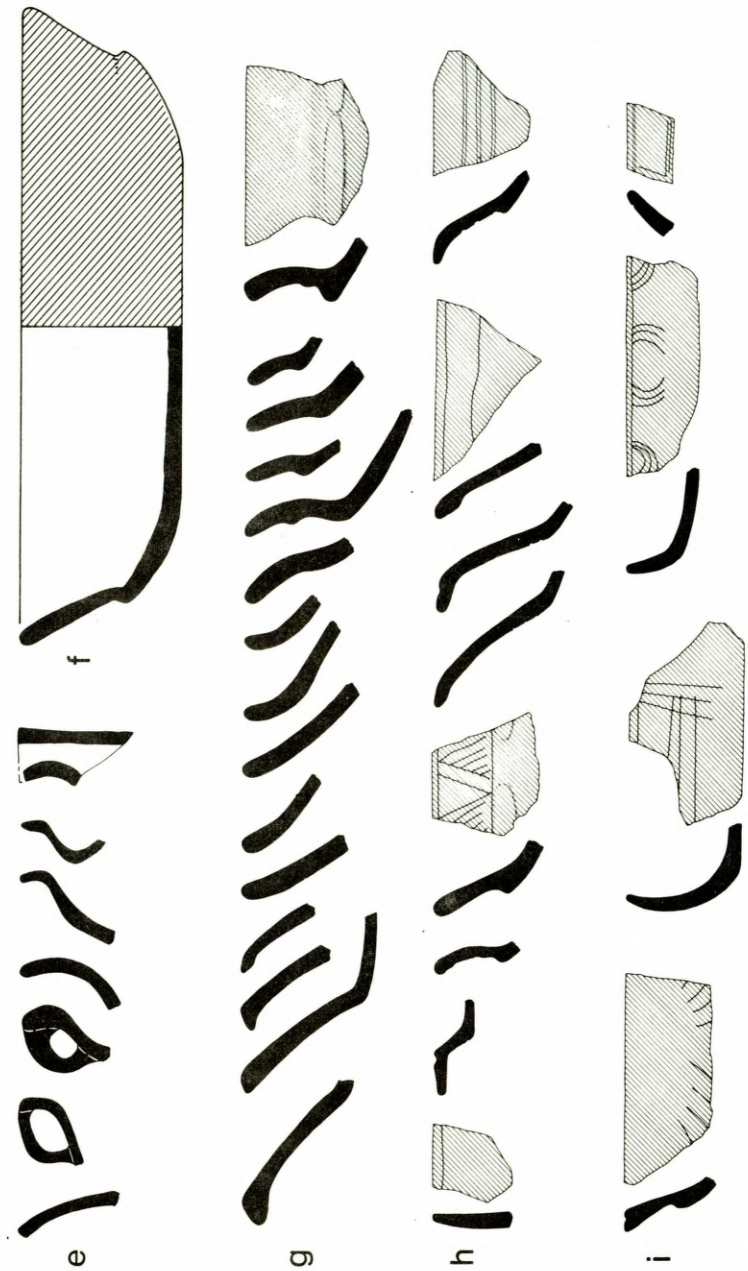


a

b

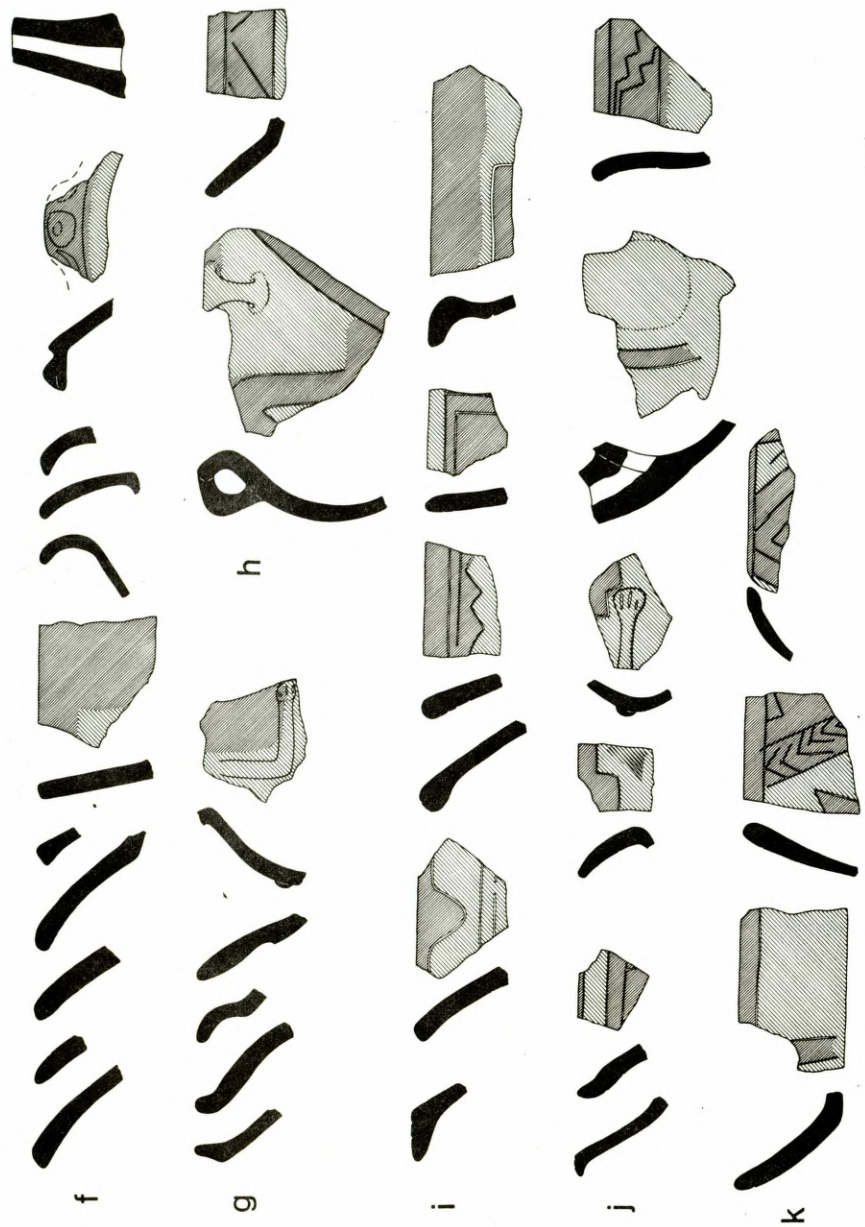
17. Ixloc Group


a
b
c
d



18. Chopen Group

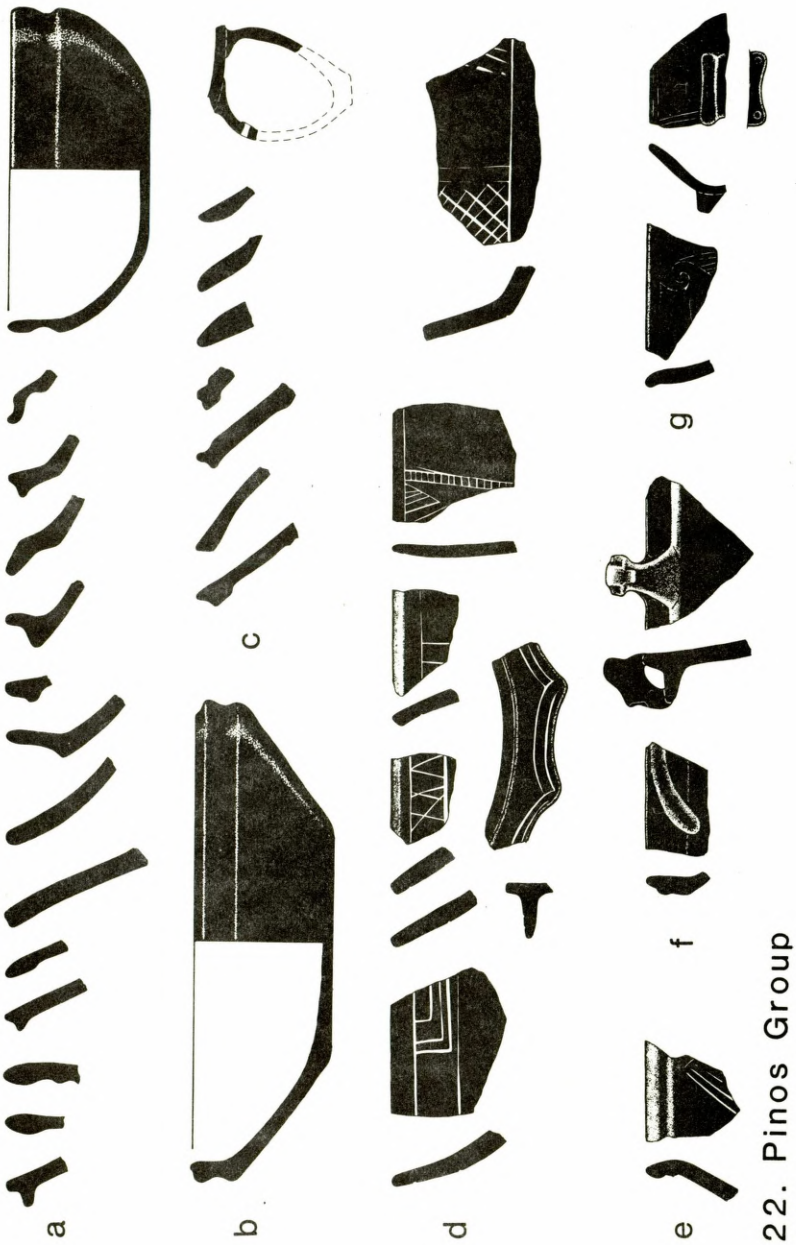
a
b
c
d
e



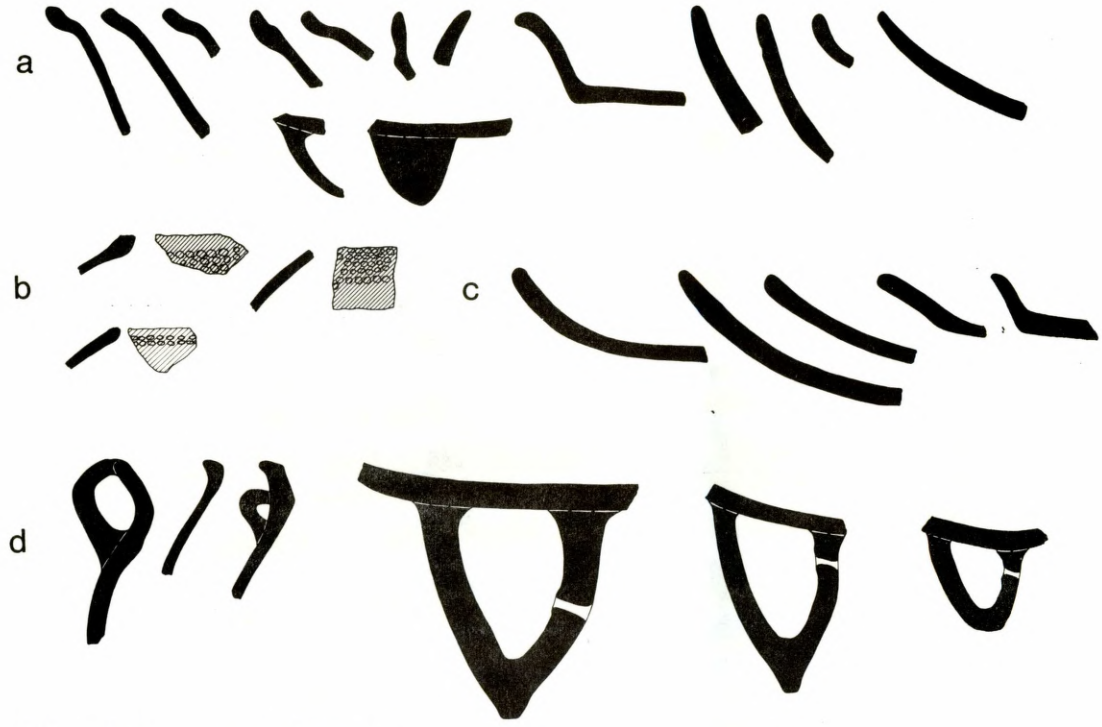
19. Chopen Group

20. Chopen Group

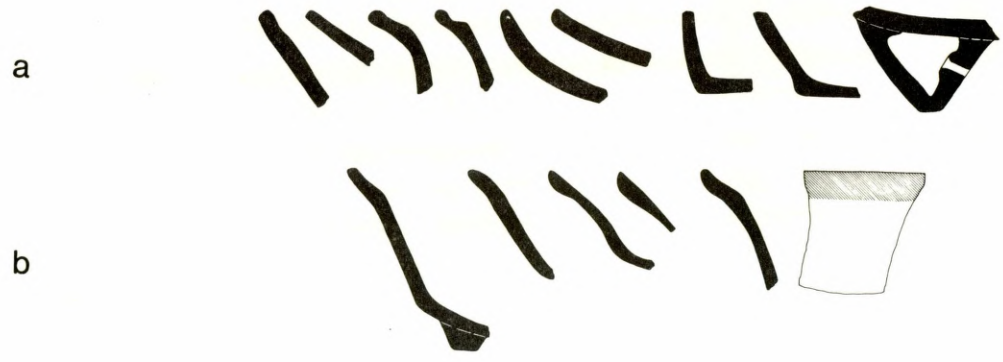
21. Inupal Group



22. Pinos Group



23. Chitucan Group



24. Chuacus Group

the first smudged black-brown wares (Pinos group, Fig. 21). The latter never reaches the same degree of importance in the Salama valley as it does in other highland regions (most notably at Kaminaljuyu) but maintains a presence for the remainder of the Preclassic era. Common decorative attributes include pre-slip grooving, post-slip incising (coarse and, more rarely, fine-lined), and red slip painting (singly and in combination with incising). The relative importance of most of these modes appears to increase in Tol times. Graphite painting is a minor, albeit distinctive, mode associated with the Xinacati group.

Typical Tol period forms are simple bowls with flaring walls (declining somewhat to 35%), and continued minor frequencies of rounded, restricted, and vertical wall forms (9%, 2%, and 2%, respectively). A pronounced expansion occurs with out-curved wall bowls (17%). The number of distinct compound bowl forms also continues to increase (11, 4 more than during the Max complex). Flaring necked jars decrease slightly (4.5%), while vertical and out-curved necked forms decline more drastically (3% and 4.5%, respectively). The minor occurrence of vertical recurved necked jars is maintained (1%), and a new form, the restricted necked jar (0.8%) appears. Rims undergo some significant changes. Direct rims (65%) are diminished somewhat in frequency, thickened rims disappear altogether, and exterior thickened examples reappear after an apparent hiatus during the Max era. The biggest change is in everted rims (29%), which more than double their previous frequency. Sublabial flanges reach their maximum popularity, along with smaller frequencies of medial flanges.

The red daubed types continue their ties to other manifestations of this widespread tradition (see above). A specific link is expressed by a minor component beginning during the Tol complex, Guaymango Red-on-buff: Polochic variety, a member of the glossy red slip paint style, an areal variety of the established type defined in the southeastern highlands. This same region also seems tied to the Salama valley via the continuation of the applique decorative mode, which in turn maintains its relationship to similar decorated unslipped wares in the lowlands.

The major orange ware (Chopen group) continues its connections to other highland regions. A minor orange component (the orange paste Ixloc group) has close affinities to the dominant Mamom ceramic sphere orange ware in the lowlands (Savana group). Grooving, incised motifs, and associated bowl forms of this and other Salama valley slipped wares indicate additional ties to later Middle Preclassic lowland pottery. Similar relationships exist with wares found to the south, the most specific

being the minor mode of graphite painting (Xinacati group). The local black-brown tradition begins during this interval and is analogous to the dominant ware at Kaminaljuyu.

Two trade types (Providencia Cream and Providencia Purple-painted), relate specifically to the valley of Guatemala during this period and a third (Jicalapa Usulutan) has origins in the southeastern highlands. The list of special types dated to the Tol complex is more extensive than any other interval in the Preclassic sequence.

Uc Ceramic Complex (ca. 200-0 BC)

The Uc complex features a number of modes common to the Late Preclassic pottery of the Maya area. Although red-on-buff (unslipped) jar types continue from the previous era (Guaymango group and the much more numerous Cachil group), the orange-slipped ceramics (Chopen group) expand with a series of new types (Figs. 18-20) to dominate the entire assemblage. The local black-brown ware (Pinos group) continues with little perceptible change, but a new version (Inupal group) of the much smaller red-slipped tradition helps define the complex.

The new Chopen group members consist of a distinct monochrome (Salama variety, Fig. 18f, g), along with incised, Usulutan decorated (Fig. 20c, d), and fluted (Fig. 19e) types. The only recognized changes in the Pinos group (Fig. 21) are in the form inventory, although subtle distinctions in surface finish are suspected. A new red type, Inupal Red, is defined by its slip and overwhelming association with jar forms (Fig. 22).

The inventory of decorative modes is little changed from the preceding period. Although the unslipped red daubed jars continue to be dominated by the Cachil group, it is felt that the more carefully executed Cachil variety (Fig. 15a, b) is more typical of the Uc complex. Incising becomes, if anything, more prevalent as a post-slip mode (Pinos and Chopen groups). A distinctive broad pre-slip fluted attribute is also added to the Chopen group, while the red-on-orange decoration all but disappears during this era. Smudged resist is also featured as a minor embellishment in both the Pinos and Chopen groups. But the true Usulutan resist decoration that typically dominates the slipped pottery at many southern highland sites in the Late Preclassic is represented by only a numerically minor type, Chicuxtin Usulutan, a member of the Chopen group (Fig. 20c, d).

The origins of the Usulutan tradition seem to have been in the southeast highlands, where it had its longest and most popular development (Demarest and Sharer 1982).

Preclassic Ceramics from the Salama Valley

The early blotchy Usulutans (Puxtla group at Chalchuapa) are present fairly soon thereafter in the lowlands (Mamom ceramic sphere) but were generally unrecognized until defined at Seibal by Sabloff (1975:71-74) as the Tierra Mojada group, including an incised type (Timax Incised) that corresponds closely to a common decorative mode in the southeastern highlands. Thus it would seem that the early blotchy Usulutans provide further evidence of Preclassic highland-lowland interaction. Later highland Usulutans are commonly associated with cream and orange slipped wares, and still later a self-slipped or unslipped Usulutan becomes dominant. Although present as trade types, the cream slipped (Jicalapa) and self slipped (Izalco) traditions are not common in the Salama valley pottery inventory. Only the weakly represented Chicuxtin Usulutan, belonging to the orange slipped tradition, seems to be a local type. In these respects, the Salama valley is quite similar to the Late Preclassic Maya lowlands with its small numbers of Usulutan pottery (compared to the usual highland pattern) derived from trade as well as some localized production.

Change in the form inventory is one of the most obvious features of the Uc complex. The overall frequency of simple bowls is significantly reduced (47% compared to 65% during the Tol complex). Flaring wall bowls (16%) are less than half of their former number; out-curved bowls are also reduced (12%); rounded wall bowls increase to 12%. Restricted and vertical wall forms maintain their minority status (2.4% and 2%, respectively). A new minor form, vertical recurved bowls (2%), is distinctive of the Uc complex. The frequency of compound bowls increases (28%, compared to 21% for Tol), although the number of distinct forms in this category is slightly reduced (10 forms compared to 11). A threefold increase occurs in flaring necked jars (16%), but the other three jar forms maintain approximately the same frequencies as previously. Rim forms reveal similar shifts. Direct rims are slightly increased (70%). Exterior thickening climbs to over four times its previous figure (9%), while interior thickening decreases (1%). Overall, the frequency of everted rims is reduced from their peak during the Tol complex, but a new embellishment, scalloped everted rims (4%), appears characteristic of the Uc complex. Flanges of all kinds--sublabial, medial, and basal, some distinctively faceted--are typical of this era.

Comparison of type-variety, decorative mode, and form correspondences makes it apparent that external connections are maintained during this era with regions both north and south of the Salama valley. The two identified trade types of the Uc complex further reflect these relationships. Utatlan Bichrome represents a distinct highland graphite painted tradition that begins

in the Middle Preclassic, but most of the examples found in the Salama valley date to the Late Preclassic. Sierra Red is the dominant pottery type of the lowland Chicanel ceramic sphere, and a scattering of examples recovered in the Salama valley are further evidence of interaction with areas to the north. As discussed above, the distribution of Usulutan pottery in the Salama valley is analogous to the general lowland situation in contrast to the prevailing highland pattern. Finally, the six Special types assigned to the Uc complex are mostly bichromes, an exception to the lack of such decoration in the major type-variety units of this period, and one (Special Red-on-orange) seems related to a southern lowland pseudo-Usulutan type.

Quej Ceramic Complex (ca. AD 0-200)

The definition of the final complex of the Preclassic era is based on a smaller sample than the previous complexes. The Quej complex is defined by the appearance of two new slipped groups: a cream group and a distinctive orange that replaces the long-lived and dominant Chopen group. The latter, the Chitucan group (Fig. 23), seems to be ancestral to the major orange groups of the subsequent Classic period.

Unslipped wares are represented by a continuation of the Cachil group (Fig. 15); the Guaymango group ended during the preceding Uc complex. The local black-brown slipped tradition (Pinos group, Fig. 22) continues, but appears attenuated. The new Chitucan group is defined by a distinct paste and a softer slip than that of its orange-slipped forerunners. The Chuacus group (Fig. 24) represents the appearance of a creamware without clear local precedent. Decorative modes associated with these wares are greatly reduced. Incising declines and is limited to a few examples in the Pinos group. The Chitucan group is characterized by two minor but distinctive variations; the addition of impressed decoration and Pansuy Plain, an unslipped type made of typical Chitucan ware. The Chuacus group includes a monochrome cream and a red-on-cream bichrome.

Forms typical of the Quej complex are dominated by simple bowls in contrast to the preceding era. Examples of flaring wall and rounded wall bowls nearly double (30% and 22%, respectively), and restricted wall bowls triple in frequency (9%). Vertical wall forms remain minor (1%), while out-curved bowls maintain about the same frequency (14%). Only two versions of compound bowls are known for this period (6% of the total). Most of the jars are either rounded necked (13%) or out-curved necked (4%) forms; vertical recurved examples are rare (1%). Direct rims reach their peak frequency (77%), and everted forms are a distant second (17%). Exterior and interior

thickened rims are present, but in small numbers (6% total). Vessel supports are most numerous in the Quej complex (solid nubbin, hollow bulbous, and hollow mammiform examples; most are probably tetrapods).

Based on available ceramic data, the pattern of external relationships does not change during the Quej complex. The Chuacus group represents ties to the southern highlands, the likely place of origin for this newly appearing creamware and its bichrome companion. Chitucan Orange, on the other hand, seems closest to a contemporary orange group at Seibal in the southern lowlands. The principal trade ware of this period, Izalco Usulutan, is representative of the self-slipped tradition of Usulutan decorated ceramics that seemingly originates in the southeastern highlands. Of the three Special types dated to this interval, one has clear affinities to the southern highlands (Red-rimmed Usulutan), and another (Porous Orange) may be from the lowlands.

After the Preclassic (ca. AD 200-1500)

As indicated at the beginning of this paper, the sample of Classic and Postclassic material recovered by the Verapaz Project was too limited for adequate typological classification and pertains to a time span beyond the principal objectives of the research. Nonetheless, pottery dating to the later portions of the precolumbian era were recognized by a series of attributes defined from excavated secondary contexts and primary deposits (burial and cache vessels). A brief description of the typical characteristics of Classic and Postclassic pottery in the Salama valley is presented here to provide a general resume of this material.

Overall, these later eras in the Salama valley are represented by pottery with generally thinner walls (dark cores are also far less frequent than in the Preclassic) and finer orange-colored pastes. In contrast to the harder fired Preclassic wares, later pottery appears to erode much more easily and often has a friable or gritty feel, especially in the utilitarian types. Also diagnostic are new decorative modes, including increased frequencies of painting on bowl forms that culminated in polychromes, along with less common complex resist designs. Jars typically have applique buttons with three punctations ("ahau" motifs) and shallow striations; they are usually either unslipped ("buff") or washed with a thin orange or red external slip. New or much more common forms include comales, vertical wall bowls (cylinders), and hemispherical or deep restricted bowls. Hollow bulbous tripod supports (which later include effigy features) are often found on shallow bowls or more rarely on plates. Jar handles are usually placed lower on the vessel (shoulder or medial), in contrast to the rim or

neck placements of the Preclassic period. Cylindrical flanged incensarios continue from the Preclassic, although the modeled decorations tend to become more complex through time. Ladle and spiked applique ("ceiba effigy") forms are also found in these later eras.

In the Early Classic several diagnostic forms appear, such as cylindrical bowls with slab tripod supports, ring based hemispherical bowls, and modeled effigy necked jars. Black and orange slips, and red-on-orange bichromes are typical. The cylindrical tripods include monochromes (some with mold-impressed panels) and stuccoed polychromes (which continue into the later Classic period), at least some of which are probably trade pieces. In the Middle and Late Classic black, light brown, orange, and cream monochromes, scraped-slip wares, red-on-orange bichromes, and red-and-black-on-orange polychromes prevail. Cream-based polychromes and stuccoed polychromes are also found, but these appear to be imports. Smudged-resist vessels appear diagnostic of this era. The pottery of the Terminal Classic and Early Postclassic retains most of these features, although black slipping may disappear and red-on-unslipped buff bowls appear more common. Effigy supports (some moldmade), fluted orange deep bowls, and imported Plumbate and polychromes (including Las Vegas and related types from lower Central America) are diagnostic. The Late Postclassic is less well known, but micaceous brown, white-on-red, and Chinautla Polychrome (black-and-red-on-cream) types are found.

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12

Regional Ceramic Development in El Quiche and Baja Verapaz, Guatemala

Alain Ichon

The present review covers ceramic material obtained from several adjacent regions of the Guatemalan highlands. The area of the San Andres Sajcabaja Project (1972-1977) extends over the municipios of Sajcabaja and Canilla in the eastern department of Quiche, while the Chixoy Project (1977-1982) concentrates on the middle Chixoy (or Rio Negro) valley from Sacapulas downstream to San Cristobal Verapaz, and on the Cubulco and Rabinal basins in Baja Verapaz (Fig. 1).[1]

Both areas extend south of the deeply embanked Rio Chixoy and north of the Sierra de Chuacus. They are limited eastward by the Rio Carchela, an affluent of the Chixoy, and westward by San Bartolome Jocotenango and Sacapulas. In the first area, a systematic survey was conducted and several important sites were excavated, mainly San Andres Sajcabaja, La Lagunita-group A, Los Cerritos-Chijoj, Los Cimientos-Chustum and Pueblo Viejo-Chichaj (Fig. 2). In the Baja Verapaz area, we were entrusted with a salvage program as a result of the construction of a hydroelectric dam at Pueblo Viejo-Quixal and subsequent flooding of a narrow, 40 km long section of the Chixoy valley. We surveyed this valley section from the dam upstream to Sacapulas and conducted extensive excavations in nine small Classic ceremonial centers as well as in Cauinal, the main Postclassic center. As for the Cubulco and Rabinal basins, the troubled political situation prevented us from completing a systematic survey. Yet a few important sites were mapped around Rabinal (Chiwiloy, Pakakja, Chilu) and near Cubulco (La Laguna). In the sierra, we located Tres Cruces, which we believe is Tzamaneb, the Protohistoric main center of the Rabinaleb (Ichon 1982:72).

Several ceramic analyses have been published (Hatch 1982; Viel 1984; Arnauld 1985) based on material excavated

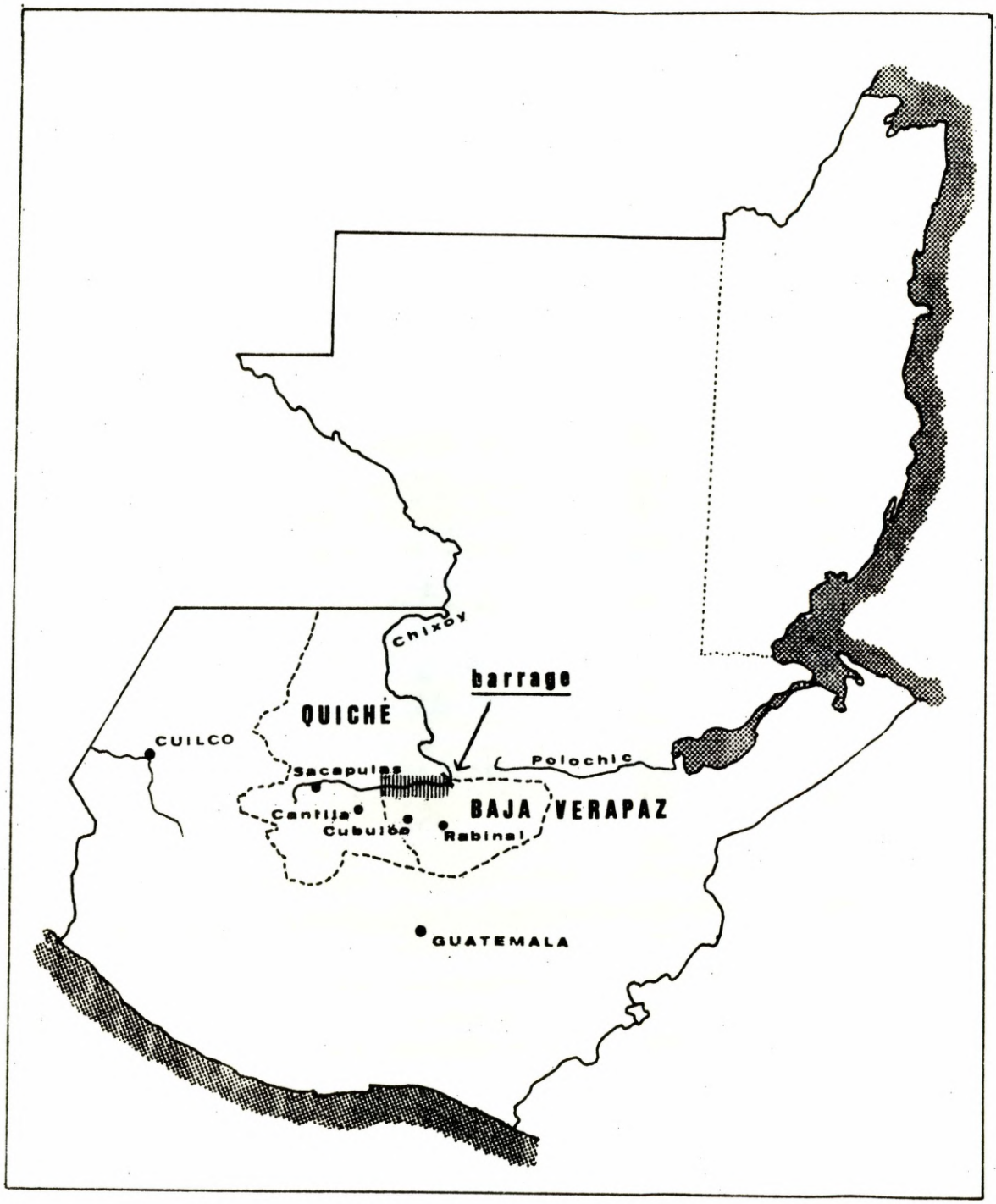

Fig. 1. General map of Guatemala.

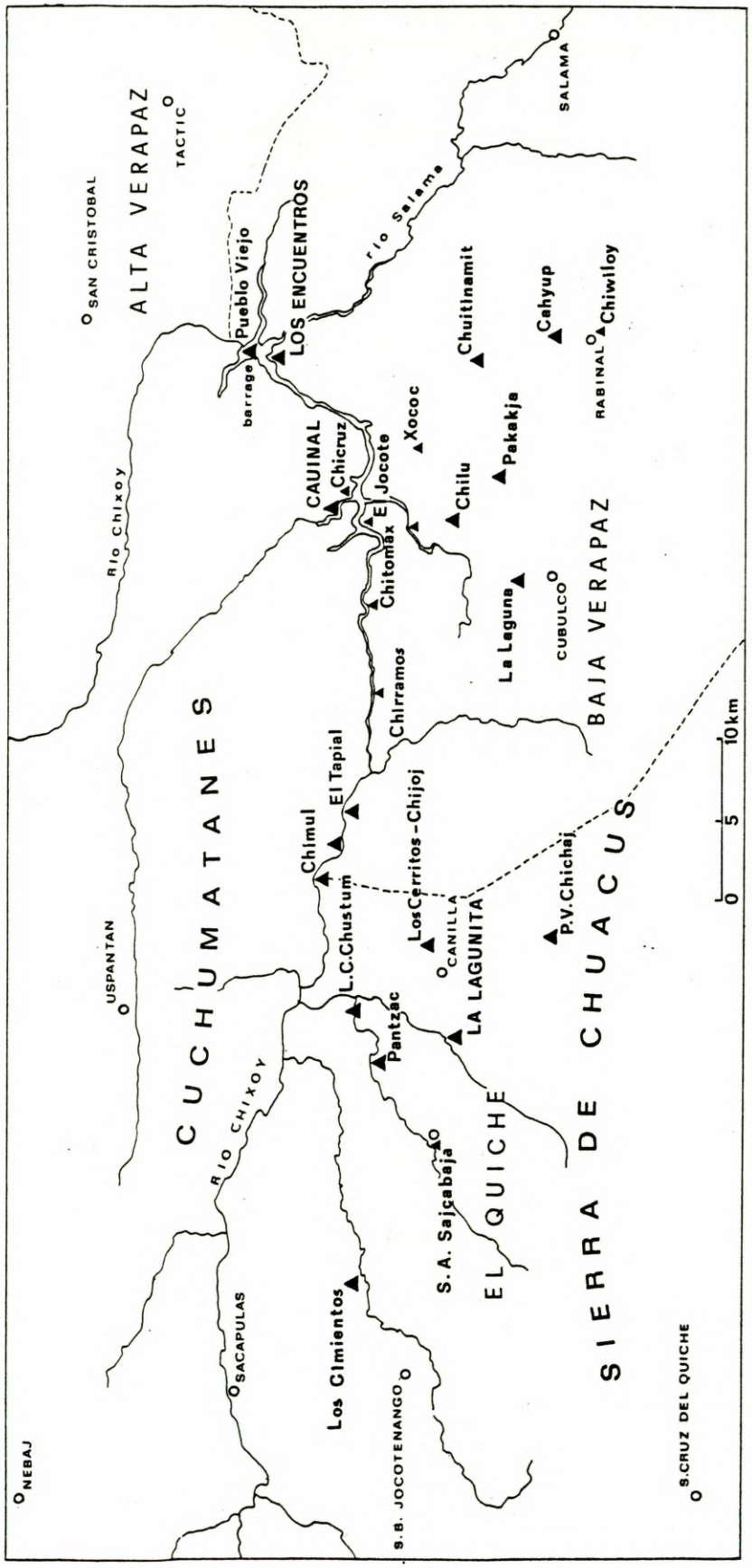

Fig. 2. Map of the sites mentioned in the text.

in stratigraphic contexts from Los Encuentros and La Lagunita-group A. Los Encuentros, a center located in the Chixoy valley, was occupied from Middle Preclassic up to Epiclassic times, although discontinuously. The La Lagunita-group A sequence covers the middle Late Preclassic, Protoclassic, and Early Classic periods. The latter site, first surveyed by A.L. Smith (1955), is one of the most spectacular early centers in central-eastern Quiche (Fig. 3).

While Hatch (1982) classified the material from Los Encuentros by wares, Viel (1984) and Arnauld (1985), working separately, applied the type-variety method to the La Lagunita ceramics, with emphasis given to the group unit rather than to the type unit. The material from Structure A-6 (approximately 5400 sherds and 11 whole vessels) allowed Viel to define two Preclassic complexes, Santizo and Noguta, along with a provisional Protoclassic complex named Lililla (see Fig. 4). The highest level of Str. A-6 was used during the Epiclassic for some intrusive burials. Arnauld classified the ceramics from Str. A-7 (approximately 4000 sherds) and from the Protoclassic ballcourt, Str. A-12. To allow intrasite comparisons, she also undertook a preliminary classification of the 130 vessels excavated from Tomb C-44 located at the base of Str. A-7, and of the 300 vessels found in the artificial cave C-48 discovered in the center of the ceremonial plaza. The formal classification of these collections was completed by the author. Arnauld defined the Protoclassic Lililla complex as well as the early facet of the Early Classic Tucunel complex.

Because most of the Preclassic wares defined by Hatch for Los Encuentros compare well with group units of La Lagunita, and because she did not establish formal complexes, we tentatively apply the La Lagunita Preclassic ceramic sequence to Los Encuentros with reference to the Salama valley sequence (Sharer, in press).

THE PRECLASSIC PERIOD: 900 BC - AD 100

We have located five Preclassic sites in the Sajcabaja region (La Lagunita being the most important), fifteen sites in the Chixoy valley, and four in the Cubulco-Rabinal basins. The Preclassic settlement pattern is obviously denser in Baja Verapaz, which corroborates the results obtained by Sedat and Sharer (in press) in the Salama valley.

Santizo Complex, Middle Preclassic (900-300 BC)

While Early Preclassic ceramics have been reported from the Salama valley and southeastern Alta Verapaz (Sharer, in press; Arnauld, in press), only one

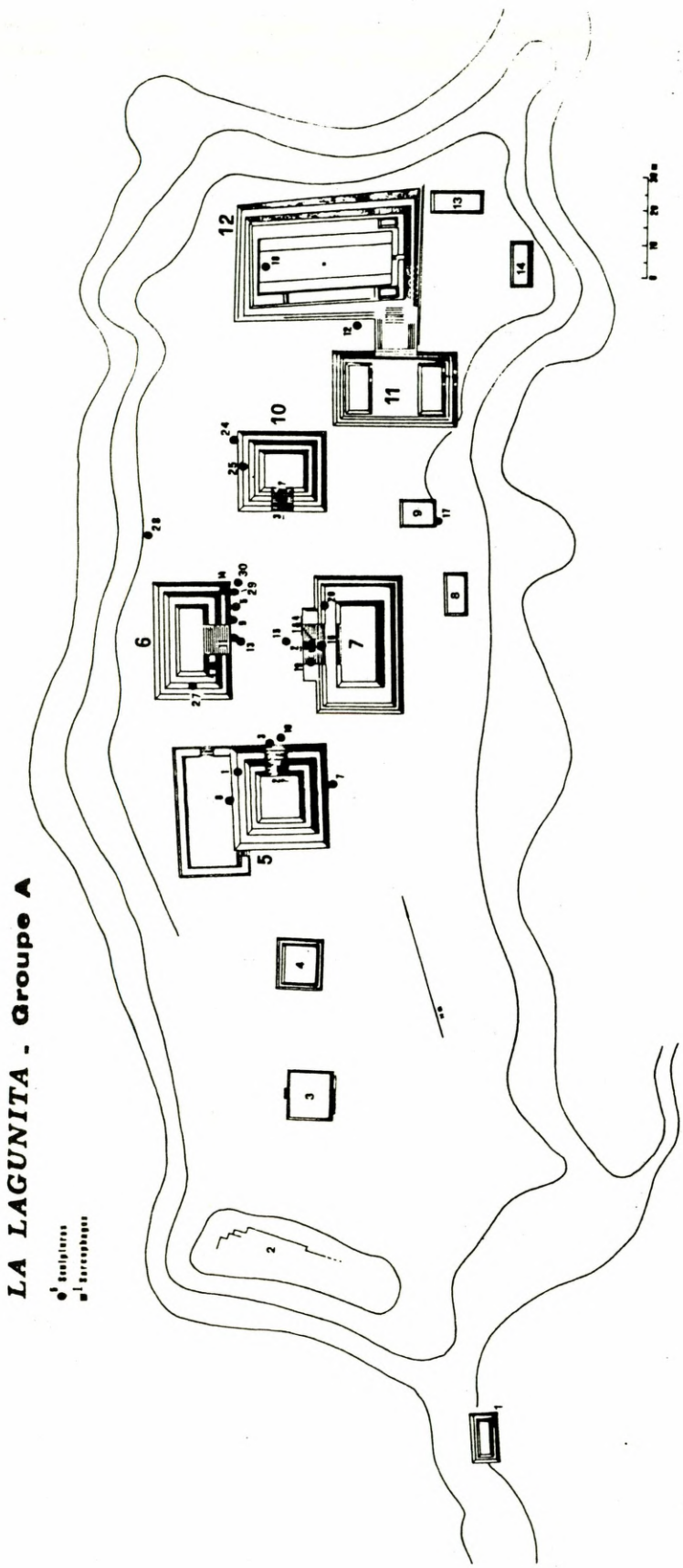

Fig. 3. Map of La Lagunita - group A (J.P. Courau).

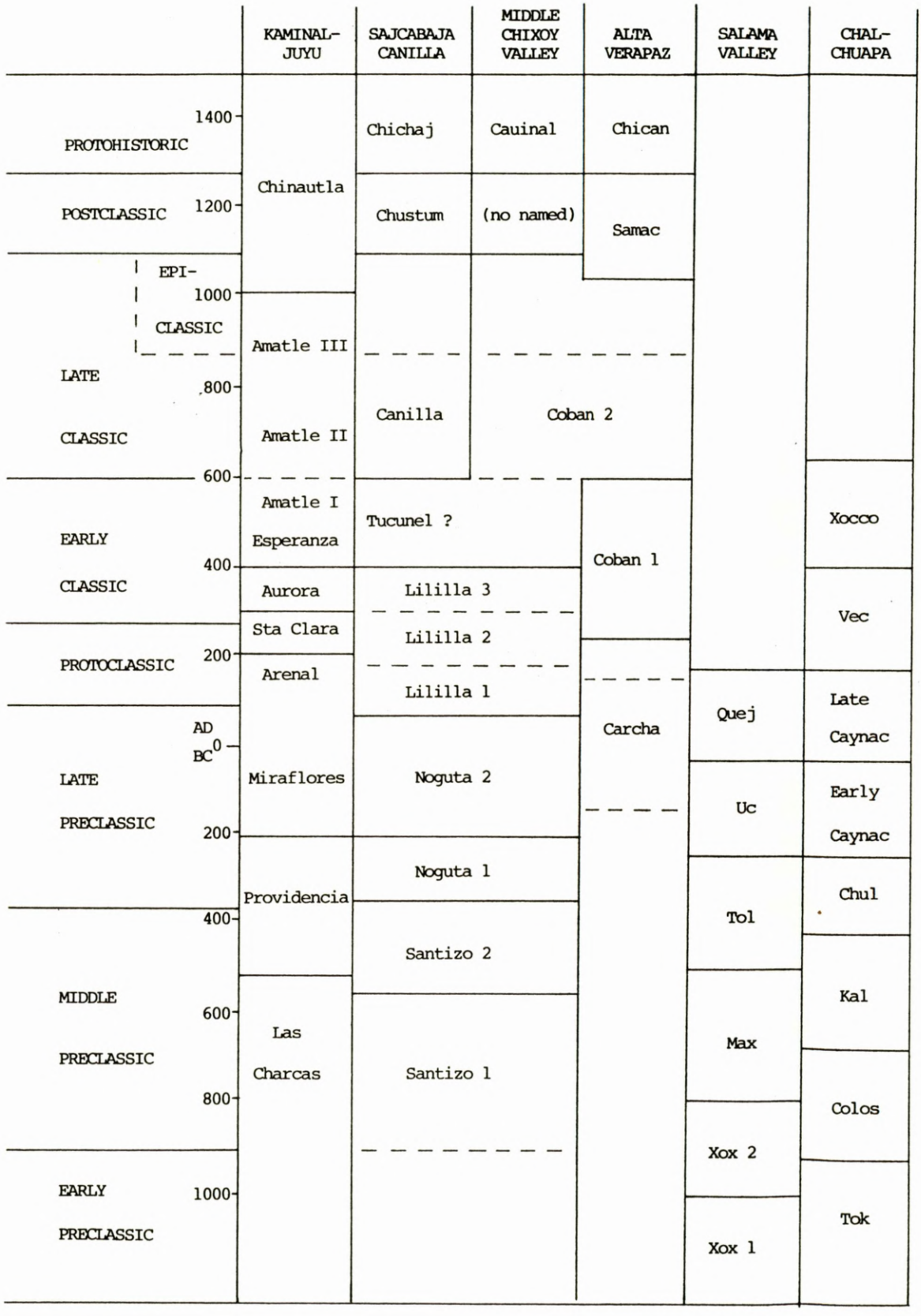

Fig. 4. Chronological chart for El Quiche and Baja Verapaz.

problematic component is known from this time interval in our regions: decorated rims of tecomates appear frequently on the surface at the Chiwiloy site located near Rabinal. From Pueblo Viejo-Chixoy, one sherd bears rocker-stamping decoration. The earliest radio-carbon dates are 730 +/- 90 BC from Chirramos (Chixoy), and 640 +/- 100 from San Andres Sajcabaja.

The Santizo complex can be characterized on one hand by the absence or scarcity of the red and black lustrous monochrome groups which come to be the main components of the succeeding Noguta complex (Viel 1984:100). On the other hand the Santizo exclusive components are few and only three types appear diagnostic of Santizo early facet. Quiludi Gray-brown locally represents the Early-to-Middle Preclassic tradition of gray monochromy. Bedelio Red-on-cream: variety A, with red painted lip and exterior rim, is related to the Red-on-buff tradition. And Foscopi Red may be the only representative of the Early Preclassic red monochrome tradition at La Lagunita. These types strongly decline or disappear later on.

In contrast, two important groups continue into the succeeding complexes, the red-on-buff Corinthian group, originally defined by Hatch (1982:99) at Los Encuentros, and the orange Orfeo group.

The Corinthian Daub group, characterized by purple stripes and blotches on plain surface, corresponds to Arenal Matte: Purple-painted variety from Kaminaljuyu and to several types of the Guaymango group from Chalchuapa and Salama (Wetherington 1978:74; Sharer and Sedat, in press). All these types begin the red-on-buff tradition by the late Middle Preclassic (or earlier) and persist in the Protoclassic phase. The Classic red monochrome and red-on-buff types certainly evolved from this long Preclassic tradition. The dominant shape of Corinthian Daub is a jar with short outcurved neck (Fig. 5), sometimes decorated with applique fillets. The tecomate shape is absent. Though primarily a domestic ware, Corinthian Daub also includes three-pronged censers and is frequently represented in burial contexts at Los Encuentros and El Jocote (Ichon and Hatch 1982: Fig. 80; Ichon and Grignon 1981: Figs. 40 and 79). Hatch suggests that jar miniatures with their applique decoration, sometimes anthropomorphic, are indicative of a ritual function.

The orange Orfeo group is locally the earliest representative of the well known lustrous ware, largely distributed all over the highlands during the Preclassic phases following a temporal sequence of orange, then black, and finally red slips (Orfeo, Nogaro, and Roqueno groups at La Lagunita). At Los Encuentros, the Glossy Orange ware is the equivalent of Orfeo. The dominant

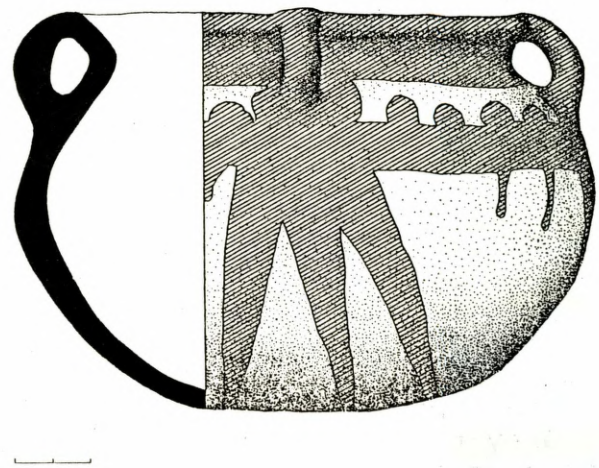

Fig. 5. Corinthian Daub jar (J.K. Donaldson).

shape is a shallow bowl with everted rim or labial flange, sometimes decorated with pre-slip grooves and applique zoomorphic patterns (toads, birds, fishes). Vessels are found in funerary contexts, e.g., a set of 11 vessels in the "shaman burial" of Str. A-7 at La Lagunita (Fig. 6). This burial, radiocarbon dated to AD 80 +/- 90, marks the end of the Noguta complex (Ichon and Viel 1984: Fig. 16). The Orfeo group is tied to the Canales Orange and Verbena Red-orange wares of Kaminaljuyu, to the Olocuitla group of Chalchuapa, and to the Chopen group of Salama (Wetherington 1978; Sharer 1978; Sharer and Sedat, in press). The resist decorative technique of Orfeo Orange Usulutan, analogous to Izalco Usulutan of Chalchuapa as well as to pseudo-resist decoration, sometimes stuccoed, develops later in the Protoclassic complex.

The red-and-black Utatlan ceramics are generally considered to be a good marker for the Middle and Late Preclassic periods. At La Lagunita, Viel was able to define two different groups. The Stendal group occurs in the Santizo complex while Utatlan is diagnostic of the Noguta complex and follows on into Lililla. The Stendal group includes red-and-black and red-and-white types. The discriminant attributes of the group are a specular-hematite red slip on exterior surface and a graphite black or white slip on the interior. A variety of Stendal Red-and-black combines both colors in zones on the exterior but without the incisions of the Utatlan group. The most frequent shapes are open or slightly incurved wall bowls and globular jars.

Stendal is a characteristic of Santizo late facet, along with the unslipped Chiclo Orange-brown type, classified by Viel into the Jocote group of Barton Ramie and Chalchuapa and with the Trovador group. Trovador

Fig. 6. Orfeo orange Preclassic vessel from the "shaman burial", La Lagunita (J.P. Courau).

includes plain white slipped, red-on-white, and incised bichrome types, which are compared to the Sacatepequez White Paste ware and to the Providencia Cream-slipped of Kaminaljuyu.

Noguta Complex, Late Preclassic (300 BC - AD 100)

According to Viel (1984:107), the early facet of Noguta (Noguta 1) shows an "accumulative" evolution in relation to Santizo. Most of the diagnostic types of Santizo late facet continue on, though with lower frequency (Orfeo Orange, Orfeo Orange-grooved, Chiclo Orange-brown, Trovador, Rapallo, Stendal), while some types that had appeared in Santizo strongly develop in Noguta 1. Innovations are also introduced, however.

Those groups that develop are the lustrous monochromes in orange and black, Orfeo and Nogaro. Another expanding component is Cardumen Orange-brown, a local low-polished orange type featuring mostly jars.

The Nogaro group is well represented in San Andres Sajcabaja by several whole vessels, some of them with incised or applique zoomorphic decoration (Ichon and Viel 1984: Fig. 25). The incision technique is characteristic of the coarse incised types of Kaminaljuyu, Chalchuapa, and Salama (Miraflores Black-brown ware, Miraflores Polished Black ware, Pinos group). The fine incision of Kaminaljuyu is absent. However, the strongest elaboration in profile and incision modes of Nogaro occur in the succeeding Lililla complex.

Among the innovations we can mention a new variety of Bedelio Red-on-cream (variety B: red-painted lip) and most important, the lustrous red Roqueno group which forms with Orfeo and Nogaro the trio so characteristic of Noguta. Bichromy in red and black develops with the Deldongo and Utatlan groups.

The Utatlan group maintains in Noguta the red-and-black tradition that the Stendal group started in Santizo times. In El Quiche, Utatlan ceramics appear to have been almost as popular as Usulutan ceramics were in the southern highlands at the same time. Arnauld suggests that Utatlan and Usulutan may have had parallel evolutions out of the Early Preclassic red tradition, and that the strong development of the former resulted in the weak popularity of the latter in El Quiche.

Noguta 2 maintains only the Orfeo and Cardumen groups from the Santizo complex, while it expands the trends showed in Noguta 1. The late facet is characterized by the post-slip incised (versus grooved) types of the Orfeo and Nogaro groups, and also by the Deldongo and Utatlan bichromes. One new shape, the plate, and several modified

rims make their appearance: faceted z-angle or molding (although present in Santizo), sub-labial molding or flange, sharp Z-angle, and exterior-thickened rims of triangular section.

Interregional Connections During the Preclassic

The Santizo complex includes some carry-over components from the Early Preclassic, e.g., Quiludi Gray-brown, but no surveyed site of the Sajcabaja and Chixoy zones can be assigned to this early phase.

The Middle Preclassic seems to have been a period of great cultural homogeneity in the highlands. On one hand, numerous typological affinities link La Lagunita to the Verapaz sites of Salama and to Los Encuentros. On the other hand, Viel emphasizes the fact that Santizo is strongly related to the Conchas, Las Charcas, and Providencia complexes. He concludes that La Lagunita could have been the highland pole of what he calls the "Conchas ceramic sphere," which would extend from the Pacific coast to Kaminaljuyu (Viel 1984:107). The diagnostic components of this sphere would be the monochrome types slipped in gray, cream, white, and lustrous orange, along with the red-on-buff and red-on-cream types.

It should be mentioned that some "Olmecoid" traits are present on some of the earliest vessels and on one stela from La Lagunita-group A (Viel 1984: Fig. 54a; Ichon 1977:34). Viel considers that the presence in the upper Rio Chixoy basin of a horizon named Conchas 1 - Santizo, marked with some Olmecoid influence, might have been determinant in the emergence of the Xe horizon in the lowlands, among other influences. Such a conclusion does not contradict the known relationship that links the early complex of Salama with the Xe horizon (Sedat and Sharer, in press).

The end of the Middle Preclassic period reflects some degree of regionalism. Viel places the Late Preclassic Noguta complex at the periphery of the Miraflores sphere defined by Demarest and Sharer (in press), although it borrows many traits from this sphere. The dominance of Kaminaljuyu is obvious in late Middle and Late Preclassic times, but La Lagunita potters were developing distinctive traits of their own. This is in accordance with the architecture and sculpture at the site.

THE PROTOCLASSIC PERIOD

Lililla Complex (AD 100 - 350)

The definition of Lililla is mainly, but not

exclusively, based on sherds and whole vessels found in La Lagunita Str. A-7 levels stratified above Noguta levels. Arnauld divides Lililla into three facets according to stratigraphic breaks and typological frequencies.

Early Lililla, or Lililla 1, reflects a marked decline of all Noguta components, with the exception of two out of the three lustrous monochrome groups, red Roqueno and black Nogaro, which both persist. Roqueno even reaches its maximum frequency in Lililla 1, while Nogaro shows a strong diversification of shape and decorative modes, a trend inherited from the Noguta complex.

At the same time, a new orange monochrome appears in Lililla 1, the Tupal group, along with other monochrome groups, Ticon, Saman, Canaba, and Canuto. All these components display a new surface treatment, distinguished by a low, somewhat streaky polish, as well as new shapes, among them mammiform tetrapod plates (Tupal, Nogaro), composite silhouette jars with medium-to-high neck (Ticon), large open bowls or basins (Saman, Canaba) and small flat dishes or bowls with interior-grooved rim (Canuto). Along with the popularity of Vitanza Black-on-red, a type of the Utatlan group, the Lililla complex appears well established during its early facet.

In Lililla 2, the decline of the types of the Noguta complex is even more marked, although the Nogaro group regains popularity with a modal content largely renewed. Otherwise there is a strong expansion of Lililla 1 trends. The Usulutan types make their appearance with very low frequency.

Lililla late facet is characterized by a general, if not strongly marked, decline of the Protoclassic components, except perhaps for black and brown Nogaro types. Also diagnostic is the occurrence of new groups that reflect the beginnings of the Early Classic Tucunel complex. Those groups feature complex negative painting, black-brown slip, basal flanges, basal molding, and ring bases among the diagnostic modes.

A few comments on the behavior of several traditions during the Protoclassic phase are in order. Four Preclassic traditions virtually disappear or strongly decline during the Protoclassic at La Lagunita: the lustrous monochrome tradition, for even the Nogaro group loses its lustrous quality in Lililla times; the cream-slip tradition; and the hematite red and graphite painting traditions, although they may regain some popularity in Early Classic times. However the red-on-buff tradition persists somewhat.

In contrast, the Lililla complex introduces some long-

enduring traditions such as Classic black-brown monochromes; large bowls and basins; post-slip complex incising, although this mode begins in the Noguta complex; complex bichrome and polychrome painting represented by several types in Lililla 2 and 3, among them imported Ixcanrio and Guacamallo sherds and vessels; Classic negative-painting (one type in Lililla 3); and Classic tripod or ring-based bowls with basal molding (introduced in Lililla 3). These long-lived traditions, however, do not define the entire Lililla complex as well as do the short-lived Protoclassic markers, mainly the low polished orange monochrome types, mammiform support, certain specific rim profiles, Usulutan decoration, and stucco painting.

As an extensive description of the Lililla complex by Arnauld has been recently published (1985), I will comment only on three of its main components, the Tupal and Rabolio groups and the Usulutan types.

The Tupal group basically resulted from technical and morphological modifications of the lustrous orange Orfeo and red Roqueno groups, which are Preclassic. These modifications at least partly resulted from foreign influences reaching La Lagunita. Both statements mean that the local Preclassic trends were reoriented in a determinant way and that this is clearly reflected in new paste composition, firing techniques, shapes, and surface treatment of not only the Tupal group, but also Ticon and Nogaro (Fig. 7), to mention only the dominant groups. Tupal is tied to the Villalobos Red ware of Kaminaljuyu, to the Atecozol group of Chalchuapa (formerly Aguacate Orange), and probably to the Chitucan group of Salama (Wetherington 1978:80; Sharer 1978:42; Sedat and Sharer in press). At Los Encuentros, the equivalent ware is Otono Red (Hatch 1982:132). In Alta Verapaz, some sherds of the soft-slipped Borayo Orange type compare with Tupal (Arnauld 1986).

The Rabolio group of censers was first established by Viel (1984:83) as a component of the Santizo and Noguta complexes, essentially for three-pronged censers. During the Protoclassic, the shapes and decorations are more varied, including open bowls with applique buttons, ladle censers with cylindrical handles, pedestal based censers decorated with a human face in the mouth of a monstrous bird, and effigy censers with a lid figuring anthropomorphic or zoomorphic deities (Fig. 8). The latter are comparable with some effigy censers of the Kaminaljuyu Esperanza phase.

As for the Usulutan decoration mode, it is hardly popular in Lililla, probably because of the development of the Utatlan tradition. It occurs, though badly executed, in one local Orfeo orange type. Two Usulutan types were

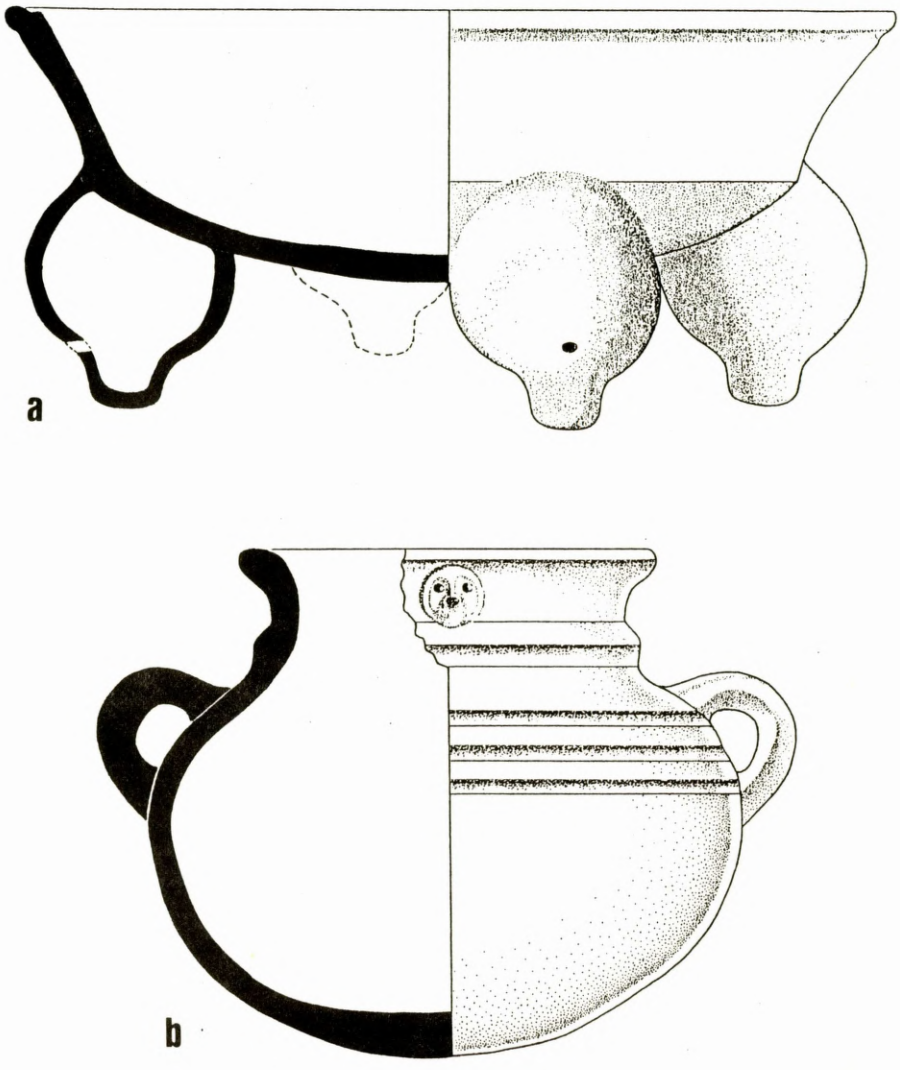

Fig. 7. Protoclassic vessels from La Lagunita. a) Tetrapod mammiform bowl, Nogaro Brown. b) Ticon jar (J.K. Donaldson).

imported in small quantities, Sacluc Black-on-orange from the Pasion zone of the lowlands, and Verbena Ivory from Kaminaljuyu (or Izalco Usulutan from Chalchuapa). The former import indicates some connection with the lowlands, which is confirmed by the presence of 12 Ixcanrio and Guacamallo Orange Polychrome imported vessels in tomb C-44 and cave C-48 (Fig. 9).

Interregional Connections During the Protoclassic

One contextual fact should be mentioned first: the Sajcabaja and Canilla zones experienced a demographic burst during the Protoclassic phase (the number of dated

Fig. 8. Rabolio effigy censer, La Lagunita Cave C-48, Early Classic (J.P. Courau).

Fig. 9. Ixcanrio Polychrome bowl, La Lagunita (J.P. Courau).

sites jumps from 5 to 39). This is not the case, however, in the Baja Verapaz and middle Chixoy areas, where only a few sites display Protoclassic material, exclusively in funerary contexts.

The demographic burst around La Lagunita, along with the strong distinctiveness of the Lililla complex, points to a population intrusion. But, as we already mentioned concerning the Tupal group, there was no intrusion of foreign ceramics. What probably happened is that the La Lagunita potters received new techniques and ideas from foreign groups who may have migrated into the Sajcabaja-Canilla zone. The origin of these new techniques and ideas are Kaminaljuyu and Chalchuapa, or perhaps more generally western El Salvador, since the similarities that link Lililla with Late Caynac are numerous and strong.[2] Both complexes show a Preclassic heritage of lustrous monochrome types in orange, black, and red. Both reflect the same innovative trends in the black groups (Nogaro at La Lagunita, Pinos at Chalchuapa [Sharer 1978]) and in the new orange monochrome groups (Tupal and Ticon; Atecozol and Soyapango [ibid.]). They consistently share the same modal inventory of rim moldings, support shapes, and decoration modes. However, Usulutan types are much more popular in Caynac than in Lililla, where Utatlan types probably substituted for them.

Otherwise, Lililla shows some affinities with Protoclassic and Early Classic ceramics from the western highlands, specifically with bichrome types and ritual pottery from Zacualpa, Totonicapan, and Zaculeu. Marked connections may even be found with the Salcaja-Momostenango ceramics. La Lagunita apparently took part in the development of new western highlands trends in service and ritual pottery. The relationship with the Verapaz Terminal Preclassic or Protoclassic complexes appears more limited to a few "Protoclassic markers" and those complexes (at Los Encuentros in the Chixoy valley and in the Salama valley) do not reflect the strong distinctiveness of Lililla. Even though La Lagunita may have helped spread the Protoclassic horizon up to the Verapaz, it seems that some sort of ceramic frontier was in formation between El Quiche and the Verapaz. Such a frontier can be traced clearly during the Classic periods.

It is important to emphasize that 60% of the entire Lililla assemblage is purely Protoclassic, showing only some modal connections with the Preclassic Santizo-Noguta complexes and with the succeeding Early Classic Tucunel complex. This fact justifies the retention of the old concept of "Protoclassic horizon" which appears strongly present at La Lagunita while sporadically represented in the western and northern highlands.

During the first century AD, the local Preclassic

evolution at La Lagunita received a strong stimulus from western El Salvador and Kaminaljuyu. However, because only eight of the fourteen components that define the Miraflores sphere, according to Demarest and Sharer (in press), have equivalence in Lililla, we feel that this complex should not be included in the Miraflores sphere. Lililla, in much the same way as its preceding complex, remains at the periphery of this sphere. Arnauld (1985:187, Fig. 41) tentatively identifies La Lagunita as the diffusion center in a Protoclassic sphere distinct from Miraflores and gives a provisional spatial and taxonomic definition of it. Obviously this definition still requires a large comparative review of all the ceramic complexes involved.

THE EARLY CLASSIC PERIOD

Early Tucunel Complex (AD 350 - 450)

This early facet, Tucunel 1, is defined primarily on the basis of the 240 classified vessels obtained from cave C-48 of La Lagunita (Ichon and Arnauld 1985:205-235). The overlap with Protoclassic Lililla is very strong, as 90% of the vessels pertain to Lililla types Tupal Orange-red, Nogaro Black, Nogaro Brown, and Canuto Brown. We suspect, however, that the cave contains a number of heirlooms. These typologically-Lililla vessels clearly reflect an expansion of Early Classic modes such as basal flange, basal molding, ring base, and complex resist decoration (different from Usulutan). In fact, 23% of the Lililla vessels represent the complete inventory of those types diagnostic of Lililla 3, mainly the black-brown Chitac group and bichrome types (Choton Orange-on-gray, Zope Resist Bichrome, and Jelic Red-on-orange). The remaining 10% include imported types and new modes: Esperanza Flesh jars, duck-pots, cream pitchers, floreros, tripod cylinders (which differ from those of Kaminaljuyu), pot-stands and effigy censers. Thin Orange is absent.

The Chitac group is characterized by a low polished black-brown slip and by thin walled open or cylindrical bowls. It includes three types: plain, red painted, and fluted. Tripod cylinders, red painted and finger-impressed, are sometimes stuccoed. Other dominant shapes are the large, open, ring based bowl, which Chitac shares with the Nogaro group, the small open bowl with incised and stuccoed decoration, and the tripod bowl with basal molding and horizontal fluting (Fig. 10a). Chitac is similar to the black-brown ceramics so common in the highlands all during the Classic period, especially to the Rio Negro Black-brown ware of the Chixoy valley defined by Hatch (1982), to Chichicaste Black-brown of Alta Verapaz, Polished Black and Polished Brown of Zaculeu, and Cambalam Black and Chemala Polished Red of Nebaj (Arnauld, in

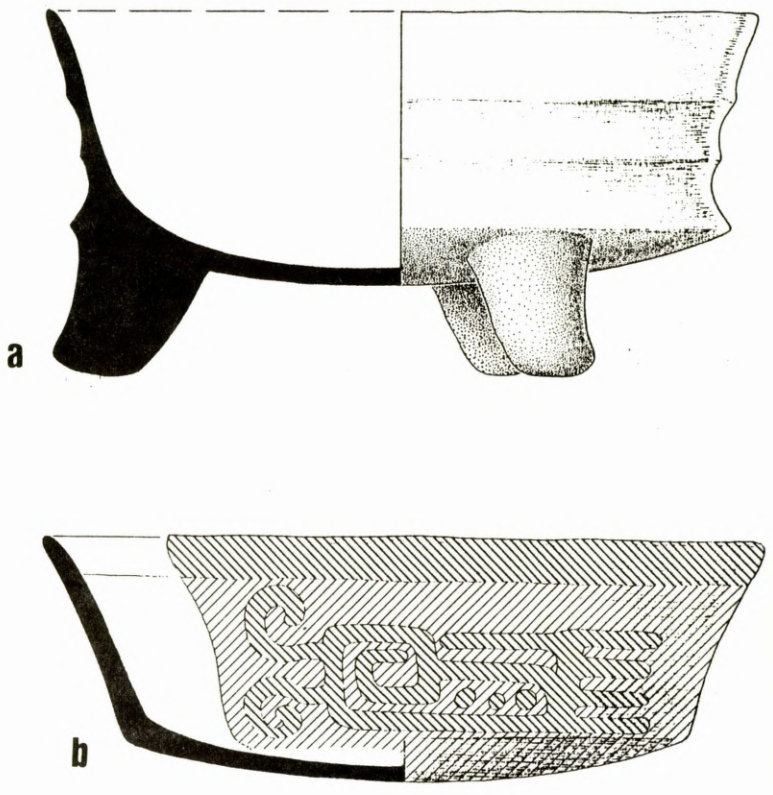

Fig. 10. Early Classic vessels from La Lagunita Cave C-48. a) Chitac tripod bowl. b) Tupal Red-on-orange bowl (Y. Baudoin).

press; Woodbury and Trik 1953:120-124, 149; Becquelin 1969:151-154).

The Zope group is represented by a few resist-decorated vessels from various tombs and burials at La Lagunita. The shapes are open bowls, flat bottomed or ring based, and tripod cylinders with hollow cylindrical supports. The Zope Orange-on-black type is comparable with the Xolacul Resist of Nebaj, while the gray and beige-on-red type is more related to the Xecua Polychrome of Nebaj, or to the Zaculeu Resist-painted (Becquelin 1969:148-149; Woodbury and Trik 1953:197, Fig. 113).

A. Ciudad (1982:185) argues that the bichrome red-on-cream Jelic group first appeared in Totonicapan during the Early Classic and that it persisted until the Early Postclassic. Only four sherds were found in the fill of La Lagunita tomb C-44, while abundant sherds were found at Canilla (Los Cerritos-Chijoj) and a few whole vessels in the Chixoy valley, all in Late Classic contexts. One Jelic type displays distinctive patterns painted in red and black on a cream or orange background, sometimes with black resist zones.

Other innovative bichrome decorative modes introduced by the Tucunel complex occur on tetrapod, tripod, or unsupported open bowls of Choton Orange-on-gray and Tupal Red-on-orange (Fig. 10b). Choton is also represented at the San Andres Sajcabaja site. On Tupal bowls from cave C-48, a recurrent pattern is a stylized spider monkey.

Additional modes that help define Tucunel include decorated basal or lateral flange, post-firing incision, applique buttons and knobs (sometimes di-symmetric), calabash-shaped bowls with pinched rim, and a complex polychrome pattern in red, pink, green, yellow, and black upon a stuccoed surface. In spite of the innovative modal content of Tucunel, the bulk of the data from cave C-48 and from sites adjacent to La Lagunita is suggestive of a slow and continuous transition between Protoclassic Lililla and Early Classic Tucunel.

Interregional Connections During the Early Classic

In contrast with Lililla, the new shape and decoration modes of Tucunel apparently do not proceed from El Salvador. In fact, the Early Classic ceramics from Chalchuapa are no longer related to Kaminaljuyu and lack any Teotihuacan influence (Sharer 1978:127). Some aspects of the Tucunel complex, however, could be compared with the Classic Vec and Xocco complexes at Chalchuapa. Teotihuacan influences do not seem to be significant at La Lagunita either. Five radiocarbon dates of cave C-48 (AD 350-400) prove the contemporaneity of Tucunel and Esperanza, but it is obvious that both complexes were evolving along different lines.

A striking fact is the scarcity of data available for the Early (and Middle?) Classic period, not only in the Chixoy valley, where it appears hardly represented, but also in the Ixil zone (see Becquelin 1969), at Zacualpa (Balam 2 is equivalent to Tucunel), in Alta Verapaz (Coban 1 complex), and eastward to the lake Izabal basin. In the Chiapas highlands, a salvage program in the lower Grijalva valley has led to the same conclusion about the "absence" of Early Classic sites (Silva n.d.). One possible reason for this lies in the strong ceramic continuity between the Early Classic and Late Classic complexes, as emphasized by Arnauld (this volume) in Alta Verapaz. Such a continuity would preclude the existence of a Middle Classic phase as defined by Teotihuacan influences. Rather, we might see the Early Classic phase as a long transition period, with Late Preclassic and Protoclassic traits being slowly replaced by Late Classic components.

Alain Ichon

THE LATE CLASSIC PERIOD: AD 600-900

The present definition of our Late Classic complexes is provisional as the ceramic material is still being classified. The data come from the Los Cerritos-Chijoj site, one of the main Classic centers in the Sajcabaja-Canilla zone (El Quiche), and from our excavations in the Chixoy valley centers, among them Los Encuentros (Baja Verapaz).

The Chixoy valley complex appears to be a good equivalent to the Coban 2 complex, more specifically to its "Tactic version" which spatially covers the northern part of Baja Verapaz (Arnauld 1986). The domestic subcomplex includes the Chixoy Coarse ware, which duplicates Chatillas Smoothed, and a carry-over of Corinthian Daub, which may perhaps pertain to Mostaza Red-on-buff (Coban 2). Common shapes to be found are jars, generally decorated with two applique "Ahau" pellets, shallow bowls or comales (with interior finger-made orange decoration), and deep flat-bottomed basins with two handles. There are three shapes of censers: a ladle censer with looped handle, a spiked bowl, and an hourglass-shaped censer profusely decorated with a solar or macabre deity.

The locally made service-ritual subcomplex includes black-brown and positive painted bichrome types. The Rio Negro black-brown ware probably derives from the Preclassic Nogaro and Protoclassic-Early Classic Chitac groups of La Lagunita (Fig. 11). It compares well with Chichicaste Black-brown (Coban 2). The most popular shape and decoration modes include: lateral molding in very low relief, ring bases, three conical hollow supports, globular bowls or cylinders (ring based or tripod) decorated with vertical fluting, applique pellets, and finger impressions. Second in importance after black-brown monochromy comes the bichrome Ruano group. Simple patterns, characteristically streaky owing to polishing on wet paint, decorate cylinders and open bowls in red on a buff background, sometimes with black patterns added in resist technique (Fig. 12). Ruano may be related to several red-on-orange or red-on-cream highland types, among them Girasol Red-on-orange, Eneldo Red-on-cream of Alta Verapaz (Coban 2), and Amatle Bichrome: Buff-on-orange variety of Kaminaljuyu (Amatle and Pamplona phases).

At Los Encuentros, a relatively large number of ritual-funerary vessels were imported from Alta Verapaz, especially the nicely polished and decorated Nitro White Incised type (Cream-on-Mikado Brown from Chipoc [R. Smith 1952]). Such imports are scarce or even absent in the western sites upstream in the Chixoy valley. The Los Encuentros material displays some lowland influences which

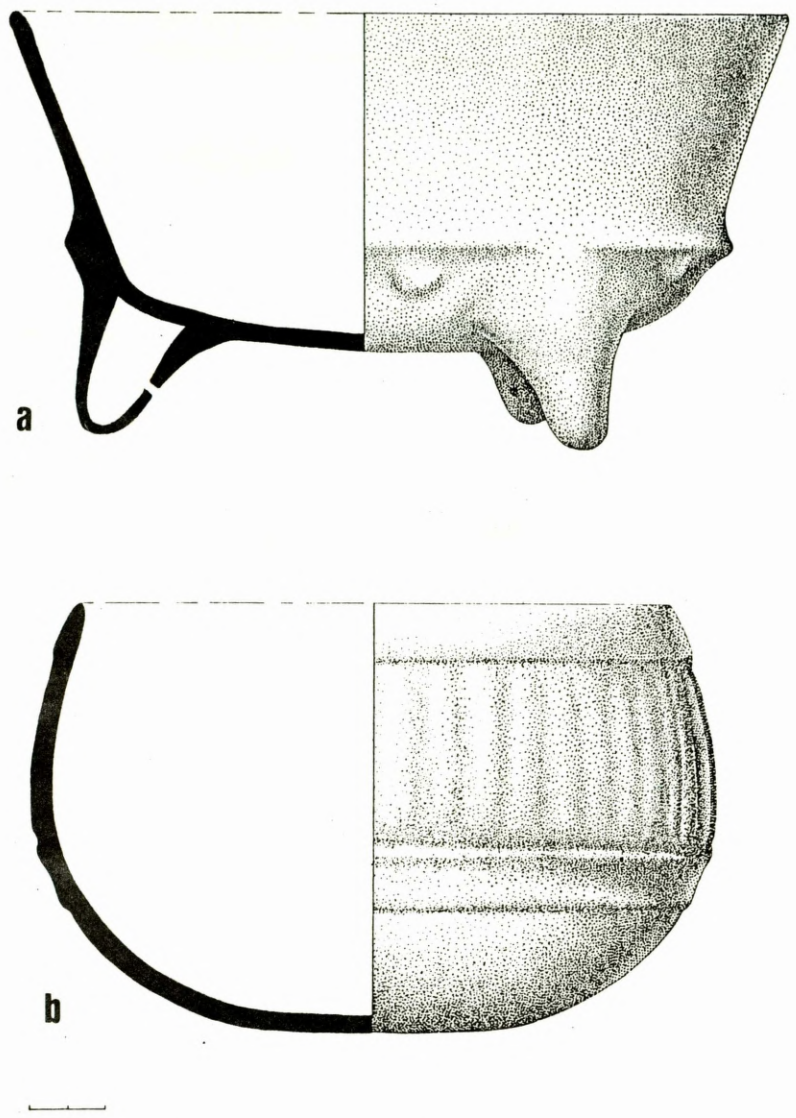

Fig. 11. Late Classic vessels, Rio Negro Black-brown group. a) tripod bowl. b) globular bowl, fluted. From Chirramos, Chixoy valley (G. Valenzuela).

probably reached the site via the Coban district.

As already stated and pending further analysis, the primary interregional connection of the middle Chixoy complex seems to be with the Late Classic Coban 2 complex of Alta Verapaz and northern Baja Verapaz (Tactic district).

The Canilla complex of Los Cerritos-Chijoj (El Quiche) shares a few types with Coban 2. However, it appears more oriented toward the western, and secondarily the northern, highlands. Similarities are seen with such Late Classic complexes as Pokom (Zacualpa), Totonicapan (Agua Tibia), and Chinaq (Zaculeu).

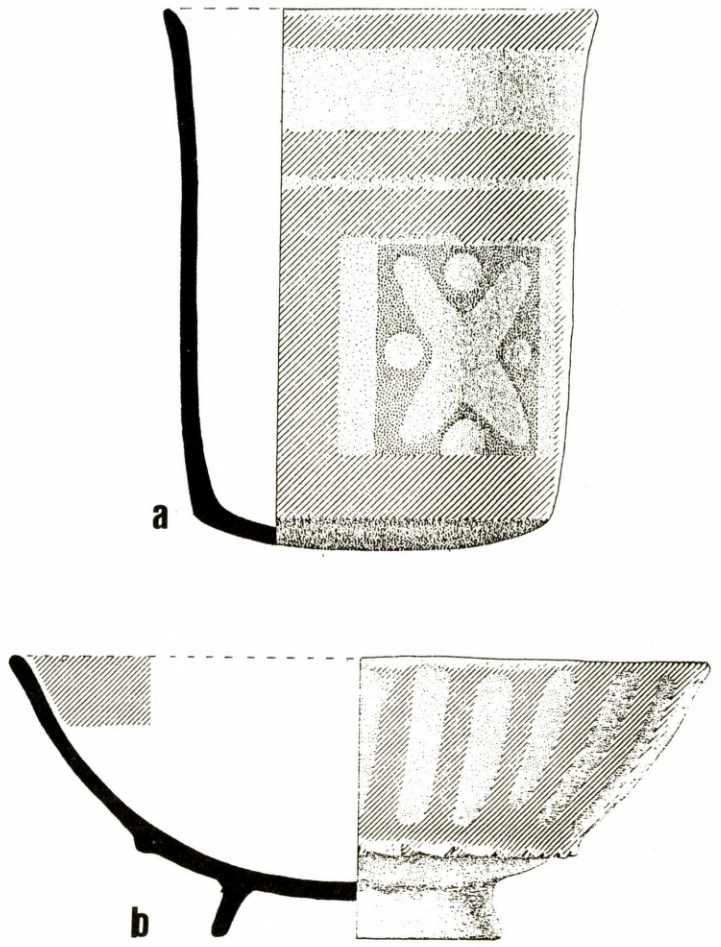

Fig. 12. Late Classic vessels, Ruano group, from the Chixoy valley. a) bichrome and resist-painted. b) bichrome red-on-buff (G. Valenzuela).

The main differences between the Canilla and Chixoy-Coban 2 complexes can be summarized. The Canilla domestic subcomplex lacks the Chixoy Coarse/Chatillas-Mostaza components. In contrast, local markers are dentate stamping and chain-like applique fillets on the rim and neck of red slipped jars, modes that are absent from the Chixoy valley but are quite popular in the Canilla as well as Totonicapan complexes (Bulux Red Incised or Impressed [Ciudad 1984:155]). The Canilla ritual subcomplex includes ladle censers with loop handles or with applique decorated hollow handles, and hourglass censers showing anthropo-zoomorphic decoration quite different from that of the Chixoy censers. Furthermore the local bichrome Ruano group represents only 1% of the sherds at Canilla. Most important are the Jelic types (3.3%), either bichrome (red-on-orange) or trichrome (red-and-black-on-orange, sometimes resist) along with an almost glossy black-brown

type (2.6%). The latter is a close relative of the Early Classic Chitac group rather than of the Rio Negro Black-brown of the Chixoy valley. In spite of its strong western connection, Canilla does include a relatively significant quantity of polychrome sherds from vessels imported from Chama and possibly also from the lowlands.

To conclude, the ceramic traditions of the Early Classic Tucunel complex--red-on-buff bichromy, resist painting, Rabolio censers, polished thin walled black-brown bowls, stuccoed decoration--still persist during the Classic Tucunel complex red-on-buff bichromy, resist painting, Rabolio censers, polished thin walled black-brown bowls, stuccoed decoration-still persist during the Late Classic phase, especially in the Canilla complex. The strong diversification of shape and decoration modes that characterizes the Coban 2 complex of Alta Verapaz cannot be found in Canilla.

These differences in evolution between El Quiche to the west and Baja Verapaz to the east should be related to regional population dynamics. We observe a decrease in the dated sites of the Sajcabaja-Canilla zone (from 39 to 26). The reverse applies to the Baja Verapaz zone, at least in the Chixoy valley (an increase from 7 to 23).

THE EPICLASSIC OR EARLY POSTCLASSIC PERIOD: AD 900 - 1000

After the momentum represented by the Late Classic complexes in highland ceramic evolution, comes what is apparently a transitional phase. The ceramic assemblage known from Los Encuentros combines the domestic and service subcomplexes inherited without major change from the Late Classic Chixoy-Coban 2 complexes, along with an entirely new ritual-funerary subcomplex, many vessels of which were probably imported from the lowlands. The persistence of Late Classic traits in ceramics, and also in settlement patterns and architecture, is so marked that we substitute the term "Epiclassic" for "Early Postclassic."

In the Sajcabaja-Canilla zone, the Epiclassic subcomplex is still poorly known but some data have been obtained from intrusive burials at La Lagunita and from Classic tombs of Los Cerritos-Chijoj looted in Epiclassic times. Otherwise, the domestic-service ceramic subcomplexes continue unchanged from Late Classic to Epiclassic times. It is in the Chixoy valley, however, and especially in the main center of Los Encuentros that we were able to define most of the Epiclassic traits.

The Epiclassic funerary subcomplex in both zones includes three well-known components of foreign origin:

"Mixtec" censers, distributed in scarce quantities, Fine Orange of the Altar group represented by one vessel and a few sherds, and Tohil Plumbate. The latter is most abundant and features a variety of shapes and decoration including open bowls with a concave bottom or three bulbous supports, pyriform jars, globular jars with fluted or effigy decoration representing Mexican deities, and zoomorphic vessels.

Three other groups, also from burial contexts, could have been locally made, but the associated shape and decorative modes are obviously imported. First, Polished Red-orange includes pyriform jars, cylindrical goblets with pedestal, open tripod bowls with anthropo-zoomorphic molded supports, and lidded vessels with human-head effigy. Second, the red-on-cream open bowls are decorated with parallel red stripes painted on a thick cream slip, while open tripod bowls with high cylindrical supports display painted, incised and carved geometric designs. This group corresponds to Wauchope's (1970:164; see also Arnauld 1986) Red-on-incised white or Carved Red-on-tan at Zacualpa, and to Jamaica Bichrome Incised of Alta Verapaz (Samac complex). Third, the resist painted type, which is probably related to Zaculeu Resist-painted, has black-brown patterns of stripes, dots, and birds against a cream background. The most common shape is the open tripod bowl with zoomorphic molded supports.

The existence of an Epiclassic transitional phase has been denied by Ciudad (1984:155) for the Samala valley (Totonicapan), and Stewart (1977:69) and Brown (1982:42) in the Santa Cruz del Quiche area. This may be due to the fact that no spectacular changes occur in the ceremonial centers during this period, and that the specific new traits are limited to religious-funerary practices and ceramics, and even then are often difficult to detect. Rather, the appearance of these foreign innovations is to be considered as a phenomenon quite extensive in the northern and western highlands, and consistent with the migration of foreign--possibly Chontal--groups moving southward along the Usumacinta (see Fox 1980). Such an intrusion would predate the so-called Toltec invasions of the twelfth century.

THE POSTCLASSIC PERIOD: AD 1100 - 1550

Assuming the existence and dating of the Epiclassic transition phase, I assign the Postclassic period to the time interval AD 1100-1524. It is characterized by the presence of Epi-Toltec and Quiche populations in eastern Quiche and Baja Verapaz. Following Carmack's (1979) and Fox's (1980) historical reconstructions of Postclassic migrations into the highlands and the foundation of the Utatlan "kingdom," I tentatively divide this period into

two phases: the Postclassic (1100-1250) and the Protohistoric period (AD 1250-1550). However, this division still has to be confirmed by the analysis of the ceramics involved.

In the Sajcabaja zone, the high, defensive ceremonial center of Los Cimientos-Chustum gave two radiocarbon dates of AD 1110 and 1160 +/- 90 (GIF:3601 and 3602), and may have been one of the earliest "Acropolis" sites (Fox 1980:46). Quite different in many aspects, the later site of Pueblo Viejo-Chichaj functioned as a Quiche outpost of Utatlan in the Sierra de Chuacus and was probably still occupied at the time of the conquest. In the Chixoy valley, Cauinal was the major center, and downstream Pueblo Viejo-Chixoy was an advanced outpost facing the Pokom of Alta Verapaz on the Quiche frontier. From Cauinal upstream, the valley was scattered with several small centers every 3 - 4 km along the river up to Chimul. The valley section between Chimul and Sacapulas, on the other hand, was almost completely unoccupied. In all the civic-religious buildings of Cauinal and the smaller centers, we have observed the existence of two construction periods and a clear evolution in the architectural style. Such an evolution, however, is not apparent in the ceramic material.

The radiocarbon datings of Cauinal are not conclusive, but this main center and associated smaller centers could have been occupied from approximately AD 1300 to the conquest. All those sites are located at the bottom of the valley and thus could not be used as "Acropolis" centers (see above, Los Cimientos-Chustum), one possible reason for the occupational gap observed in the valley from AD 1150 to 1300.

The definition of ceramic complexes for these Postclassic and Protohistoric periods, as well as the evolution of construction phase 1 to phase 2 ceramics in the Protohistoric centers of the Chixoy valley, must wait for further analysis of the material. Concerning the western zone, we suspect that the abundant sherds from Los Cimientos-Chustum and related Postclassic sites north of San Andres Sajcabaja will greatly help define a Postclassic "Acropolis" ceramic complex to be named "Chustum." This complex is apparently unrepresented in the Chixoy valley.

In the Chixoy valley, a preliminary classification of the ceramics from Cauinal has been worked out by Hill and Ward (1980). This Protohistoric Cauinal, complex offers a variety of service-ritual types, among which three appear inherited from Epiclassic times (Polished Red, Red-on-cream incised, and Carved). One important associated mode is the zoomorphic molded support. But five new types reflect the development of bichromy and polychromy in red-

on-white (Chinautla Polychrome style), in white-on-red (the Fortress type), in red-and-black on a white slip (Chinautla Polychrome), as well as the appearance of molded decoration on ladle censers. Common shapes associated with the painted types are tripod zoomorphic bowls and cremation urns. The domestic subcomplex includes several types defined by Hill and Ward on the basis of technical attributes.

Three additional components should be defined, a black-and-white-on-red polychrome, apparently limited to the Chixoy valley, and two domestic groups, one micaceous and the other with vesicular paste.

Among the diagnostic modes of the Cauinal complex, we may mention molded or impressed decoration, present not only on zoomorphic supports (an Epiclassic carry-over) but also on ladle censers, figurines, and seals; high necked jars with concave bottom and strap handles; and the genuine flat, slab-shaped comal.

Hill and Ward conclude that the Cauinal ceramics were generally home-made and that this center had few contacts with the central highlands, because the Chinautla and Fortress polychrome types are scarce in the Chixoy valley.

It is interesting to note that the Classic ceramic frontier which divided El Quiche from Baja Verapaz still existed in Postclassic and Protohistoric times. As a matter of fact, this frontier still can be traced along the present administrative border between both departments. Chimul, the westernmost Protohistoric center in the Chixoy valley upstream from Cauinal, is located on this border. Most sites of the Chixoy valley and Rabinal-Cubulco basins, including Cahyup and Chuitinamit, show a remarkably homogeneous civic-religious architecture which differs from that of El Quiche centers. In addition to the Chican complex of Alta Verapaz (Arnauld 1986), which seems to stand apart, the definition of two Protohistoric ceramic complexes, one for Southern Quiche, the other for the Chixoy valley and Baja Verapaz, would greatly contribute to clarification of the temporal and regional differences and allow a firmer interpretation of related ethnohistorical sources.

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Notes

[]1. The San Andres Sajcabaja Project was an investigation program of the Centre National de la Recherche Scientifique, directed by Henri Lehmann. The Chixoy Project was directed by Alain Ichon.

[2.] The taxonomic logics of the La Lagunita and Chalchuapa typologies are similar, but both differ from the logics applied to the Kaminaljuyu ceramics by Wetherington (1978). This fact certainly affects the process of comparison (see Demarest and Sharer, in press).

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13

Regional Ceramic Development in the Northern Highlands, Alta Verapaz, Guatemala: Classic and Postclassic Material

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This paper discusses the regional ceramic sequence of southern Alta Verapaz (AVP) in the northern highlands of Guatemala. The department of AVP is located east of the middle Chixoy valley and south of the Peten lowlands (Fig. 1). An eastern extension of the Cuchumatanes range, the Sierra de Alta Verapaz crosses the department from west to east and divides it into a northern and southern zone. The northern zone is transitional to the Peten lowlands while the southern zone is part of the highlands. Adjacent regions located in the northern highlands are Baja Verapaz (BVP) to the south and the Ixil zone to the west. The Classic and Postclassic ceramic evolution of these regions present similarities with the AVP sequence, but only data from the Ixil zone are briefly reviewed as compared to those of southern AVP (for BVP ceramics, see Ichon, and Sharer and Sedat, this volume). Although references will also be made to the Chama sequence the major focus will be on material from southern AVP.[1]

Figure 2 summarizes contextual information for most of the ceramic data available for AVP and the Ixil zone. As indicated, the collections assembled are heterogeneous and different methods of analysis have been used, conditions that do not facilitate intersite comparisons. Much attention must be paid to the functional context and to the intrinsic characteristics of recovered material so as to differentiate the various functional subcomplexes: utilitarian (comales, jars, basins, large bowls, duck-pots),[2] ritual (censers), funerary (pottery found in burials), and fine "service" subcomplexes (Sabloff 1975:236).

Figure 3 provides a coarse temporal correlation of the AVP and Ixil zone ceramic complexes. In interpreting this chart, caution must be exercised owing to the lack of a tight chronological framework. Only one radiocarbon date is available, A.D. 1190 +/- 60 for the Nebaj tomb VIII

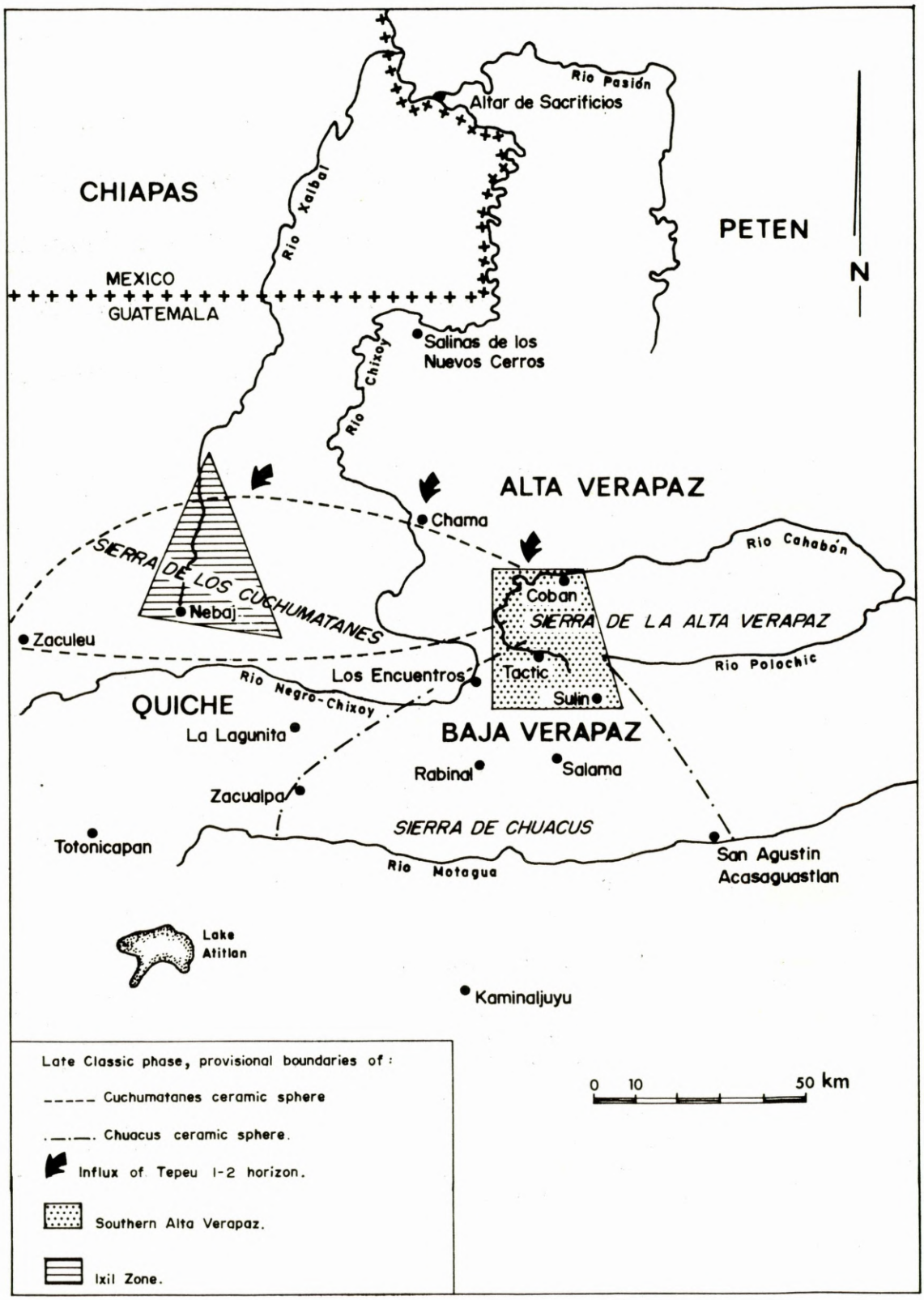

Fig. 1. Map of the northern highlands.

Regional Ceramic Development in Alta Verapaz

REFERENCE	SITE OR ZONE	CONTEXT	ANALYSIS
Butler (1939) Archives Univ. Museum, Phil.	Carcha south. AVP	Stratif. deposits, construction fills	None, descriptive notes
Butler 1940	Chama, Middle Chixoy	Stratified burials and caches	Wares (analysis of whole vessels
Smith and Kidder 1951	Nebaj Ixil zone	Stratif. burials and caches	Description of whole vessels
Smith 1952	Chipoc south. AVP	Large refuse dump	Preliminary typology
Becquelin 1969	Nebaj-Acul Ixil zone	Stratif. deposits, burials, construction fills	Type-variety
Adams 1972, n.d.	Cotzal dist. Ixil zone Chajcar, AVP	Stratif. deposits, burials, review of private colls.	Type-variety
Arnauld 1980 in press	Coban-Tactic south. AVP	Stratif. deposits, refuse dumps, constr. fills, burials, caches	Type-variety-mode

Fig. 2. Main research on ceramics from Alta Verapaz and the Ixil zone.

		ALTA VERAPAZ			IXIL ZONE		
PERIODS	TIME	CHAMA CHIPAL (Butler 1940)$_a$	AVP (Smith 1952)	COBAN-TACTIC (Arnauld 1980a)	NEBAJ Gr. A (S. K. 1951)$_b$	NEBAJ-ACUL (Becq. 1969)	COTZAL (Adams 1972)$_c$
LATE POSTCLASSIC	1540	CHIPAL 3		CHICAN		UMUL	CHAJUL
	1250						
EARLY POSTCLASSIC		CHIPAL 2 CHAMA 5 CHIPAL 1b	SAMAC	SAMAC	NEBAJ A3	TZIQUIN	LATE COTZAL
	1000						
LATE CLASSIC		CHIPAL 1a CHAMA 4 CHAMA 3	SEACAL CHIPOC	COBAN 2	NEBAJ A2	BATZ	EARLY COTZAL
	700						
	550						
EARLY CLASSIC	300	CHAMA 2 CHAMA 1B		COBAN 1	NEBAJ A1		TUBAN late facet
PROTO-CLASSIC	A.D.0	CHAMA 1A		CARCHA			TUBAN early facet
	100						

Fig. 3. Chronology of southern Alta Verapaz and the Ixil zone. Notes: a) For Chama 1A-1B, see Borhegyi 1965:57, Table 1; for Chipal 1a-1b, see Becquelin 1969:86, Table 1. b) For Nebaj A1-A2-A3, see Becquelin 1969: Table 2). c) See also Adams 1967: Fig. 2.

which contains Plumbate (Nebaj sequence, Becquelin 1969:61). Otherwise, one Chama 3 vessel found in a burial at Altar de Sacrificios has been dated A.D. 752 (Webb 1973:400). Furthermore, the material does not illustrate all time periods equally. The Early Classic complexes are defined on the basis of small quantities of ceramics. This is due either to a very sparse occupation in the northern highlands during this period, or to a difficulty in sorting Early Classic markers out of the Late Classic ceramics, resulting in an apparent weakness of Early Classic complexes. For the Late Classic period, most collections are abundant and proceed from well-controlled and functionally diverse contexts. They can be expected to represent the whole of the ceramics in use at that time. However, there is an overemphasis on funerary pottery in material from Chama and Nebaj. The Early

Postclassic is a transitional phase difficult to define because little material has been obtained from well stratified deposits. While the ceramics assigned to the Late Postclassic are more abundant and their temporal placement is less controversial, few sites of this period have been excavated.

It may be useful to specify the meaning of some terms used in this review. The "region" is a loosely-defined geographical unit which encompasses several "zones." A zone normally includes sites with similar cultural content. Inside a given zone, several "districts" can be defined on basis of local variations in cultural achievements, e.g., the Coban and the Tactic districts in the southern AVP zone. The "Middle Chixoy valley" refers to that portion of the valley oriented north-south, roughly from Los Encuentros to Salinas de los Nueve Cerros. Upstream of Los Encuentros, the "Rio Negro-Chixoy valley" refers to the section oriented east-west. The term "reference-unit" (type-unit, group-unit) is used in interregional comparisons to designate either the best-known or the most representative ceramic type or group in a given set of compared units from different regions, zones, and sites. Exhaustive lists of compared units are omitted. Finally, the ceramic sphere concept is applied to several functional subcomplexes of the Late Classic period. The proposed spheres are provisional because their typological content and spatial boundaries are outlined rather than demonstrated. The sphere concept is used essentially as an operational tool to order dispersed interregional connections and provide guidelines for future research. As stated by Demarest and Sharer (in press:18), ". . . determining the cultural significance of these shared ceramic ideas is, needless to say, a more difficult problem." Only some preliminary insights about the possible cultural processes related to the formation of the proposed spheres are offered.

TERMINAL PRECLASSIC (PROTOCLASSIC) COMPLEXES

While a small Early Preclassic component has been located at Sulin in northern BVP (Arnauld 1980, in press), the earliest complexes formally defined for southern AVP and the Ixil zone are assigned to Terminal Preclassic - Protoclassic times. Rands and Smith (1965:117) noted that only some traits characteristic of the Protoclassic horizon were present among Late Preclassic features in the northern highlands. This applies quite well to the Carcha complex (Fig. 3), which includes some dull slipped orange sherds and a few mammiform supports in what appears otherwise to be a Late Preclassic assemblage. Three basically Preclassic traditions are represented: orange monochrome, black monochrome, and red-on-buff. The orange and black monochromes experience a change from lustrous to dull surface during the Terminal Preclassic.

Typological components announcing Early Classic developments are easier to trace in the ceramics from Chama and the Ixil zone. In addition, Protoclassic markers appear to be more frequent and there are a few trade wares imported from the lowlands. The black-brown and dark to light red monochromes are more popular than the black types. Bichrome painting on basal flange bowls occurs and polychromes include a few representatives of the Ixcanrio and Actuncan Orange Polychrome groups (lowlands). The Carcha sample lacks those types and modes. In this complex two long-enduring Classic traditions make their appearance with low frequency: red-on-buff jars (Mostaza Red-on-buff), and comales and basins with a smoothed cream interior surface (Chatillas Smoothed). Mostaza clearly evolves out of the Preclassic red-on-buff tradition.

Although some Tzicuay vessels and material in private collections said to come from the northern Ixil zone include imports and show influences from the Peten lowlands, the majority of the Terminal Preclassic ceramics under review are definitely highland oriented. Typological affinities of the black and red-on-buff types link AVP, BVP, La Lagunita, Kaminaljuyu, and Chalchuapa. The reference units are the Pinos group of Chalchuapa and Salama (Sharer 1978:36, 38; Sharer and Sedat, in press) and the Corinthian Daub ware of Los Encuentros (Ichon and Hatch 1982:99). On the whole, the southern AVP and Ixil zone complexes appear less diversified and less innovative than the contemporary complexes of La Lagunita and of the southern highlands. So far, they lack Usulutan and Utatlan decorations. Carcha illustrates the slow disappearance of impoverished Preclassic traditions. A little more creativity can be found in the Ixil zone, owing at least partially to lowland influences and imports.

EARLY CLASSIC COMPLEXES

For southern AVP, the definition of the Coban early facet, or Coban 1, is tentative and incomplete because it is based on a small number of sherd lots graphically seriated between Carcha and Coban 2 lots. As for the Ixil zone, late facet Tuban is not easily distinguished from the early facet on the basis of Adams' (n.d.) unpublished description. Furthermore, utilitarian pottery is better known in southern AVP than service-funerary pottery, while the opposite applies to the Chama and Ixil zones.

In contrast with Carcha, Coban 1 pottery has a distinctive soft, friable paste, with an easily erodable surface and thinner walls (see the same contrast in the Salama valley material; Sharer and Sedat, this volume). New shapes include comales and large flaring-wall and

vertical-wall bowls with small handles. Post-slip incising tends to replace pre-slip grooving. Mostaza Red-on-buff and Chatillas Smoothed, which appeared in Carcha times, make up the bulk of Coban 1. Mostaza jars are characterized by a low-to-medium neck with thickened rim, overall or banded red slip, dull or sometimes polished, and applied finger-impressed adornos ("ahau" motif). Comales and large bowls have a cream matte interior surface. In both types, variations in shape profiles have a degree of temporal significance and provide useful markers, as Mostaza and Chatillas remain dominant types of the utilitarian subcomplexes virtually until the end of the Early Postclassic phase.

There is strong ceramic continuity from Early to Late Classic times. In the service subcomplex, Chichicaste Black-brown carries over from Coban 1 to Coban 2, as a good combination of widely distributed highland Classic modes: polished black-brown monochrome, tripod or ring-based bowl with basal molding, complex post-slip incision, and other decorations by surface modification. But red-band painting on the rim is a mode limited to Coban 1. This is the only example of bichrome in the Coban 1 sample, which otherwise lacks the basal flange profile and displays very few cream and orange slipped examples.

Again the Chama and Ixil zone ceramics appear to be somewhat more diversified than those from AVP, although this may be due to contextual factors, because the Coban 1 sample proceeds from non-funerary contexts in a few sites located in the Tactic district only. The Coban district has reportedly yielded some "Tzakol pottery," mainly from the Chichen site (A.L. Smith 1955). The diversity in the Chama and Ixil zone material is reflected in surface finish of the black-brown types, e.g., Nebaj Fine Black, which must be mentioned for its medium-glossy finish and unique shapes, such as hemispherical bowls and tripod cylinders. Basal-flanged trichrome and bichrome resist-painted bowls are known from Nebaj and in the Tuban late facet complex. However, all zones across the middle Chixoy valley share the popular black-brown ring based bowl with basal ridge and associated decoration by surface modification. Except for the well-distributed duck-pot shape, the utilitarian subcomplexes show less specific affinities.

Chronology

Two features of the Coban 1 complex should be mentioned because they may help differentiate the Early Classic from the Late Classic, and thus mitigate the otherwise impressive continuity which relates both phases. On one hand, although the sample is representative, Coban 1 lacks the remarkable diversity in decoration and shape combinations so characteristic of

Late Classic Coban 2 (see below). On the other hand, Coban 1 can also be defined by its exclusive component, Chipilin Red. This type has a somewhat lustrous finish and displays a range of shapes and decorations transitional from Terminal Preclassic to Early-Late Classic times: e.g., thick, flared wall open bowls (70%) and thin, rounded or flared wall bowls (30%), some of the latter with basal ridge, ring base, or tripod supports; and pre-slip simple grooving, horizontal fluting, and post-slip incision. At least part of the type may have a specular hematite slip. Although this needs further research, Chipilin might pertain to a Terminal Preclassic - Early Classic horizon of red types, some of them hematite-red slipped and others painted red-on-orange. This horizon appears to extend from the Pacific coast to the middle Motagua valley, and from Kaminaljuyu to the Cuchumatanes.[3] The affinities linking the red types from those regions are essentially modal. Whether this horizon derives from the Preclassic lustrous orange and red monochrome tradition or from the Protoclassic dull orange monochromes is unclear, but it may actually have evolved from both.

Interregional Connections

Besides this connection, Coban 1 presents strong affinities with utilitarian subcomplexes of BVP and the middle Motagua valley: the reference units are the Chixoy Coarse ware, compared to Chatillas Smoothed, and the Corinthian Daub ware, compared to Mostaza Red-on-buff (Ichon and Hatch 1982:99, 138), as well as the duck-pots of Zacualpa. Chichicaste Black-brown can be easily compared with a number of black-brown types distributed in the highlands, and the same can be said of the spiked censer bowls of Barbasco Censer ("ceiba effigy," Coban 1). The Ixil zone shares with Zaculeu tripod cylinders, basal flange polychrome bowls, tall-footed tripod pitchers with Kaminaljuyu and La Lagunita, as well as censer shapes, shoe-shaped vessels, and resist-painted pottery. Butler (1940:254, 256), Smith and Kidder (1951:64) and Adams (n.d.) have suggested that the basal flange polychrome bowls from the Ixil zone, with their fish and parrot designs, originated in the Usumacinta region, or somewhere between the Usumacinta and northern Quiche. Such a link with the lowlands remains to be documented for southern AVP.

LATE CLASSIC COMPLEXES

Although they primarily elaborate (traits inherited from the Early Classic phase) rather than innovate, the Late Classic complexes display signs of vigorous creativity and imagination. The typological inventory for Chama, southern AVP--Chipoc included--and the Ixil zone is

all the more intricate as analysts have tended to multiply typological divisions. The present review concentrates on those trends most relevant to spatial and temporal variation as well as to interregional connections.

Spatial Variation in Utilitarian Subcomplexes

General similarities in basic shapes and surface treatment link the Batz, Early Cotzal, and Coban 2 utilitarian subcomplexes, but a clear spatial variation in morphological modes may be more significant. Jar attributes even vary inside the southern AVP zone. In the Coban district, the standard jar features a high neck, small handles--when present--attached at midbody, and applied incised adornos; it is slipped in dark red or white, or is unslipped and rather porous (Chipoc: "red urns," "hard-ware light ochraceous or salmon jars," Smith 1952:224; Coban 2: Coaba Smudged Red, China White, Cebada Porous). In the Tactic district, a lower neck, larger handles, impressed adornos ("ahau" motif), and a red slip are prevalent traits (Coban 2: Mostaza Red-on-buff, Cidra Red-on-buff). The strongest diversity of types and modes has been found in the Tactic valley, which forms the dividing line between both districts.

Although ceramic data per se can hardly indicate the existence of socio-political divisions, in the present case they appear to confirm the existence of several distinct entities in southern AVP and northern BVP, independently suggested by ecological and settlement pattern analyses (Arnaud 1980, in press). Linguistic and ethnohistoric data also provide a relatively reliable spatial distribution of the Pokom and Kekchi ethnicities, at least during the Early Postclassic period, which tends to support the Tactic-Coban division.

Main Trends in Service-funerary Subcomplexes

Late Classic service-funerary pottery from southern AVP (Chipoc included) and the Ixil zone can be characterized by a few major trends.

1.) The dominance of black-brown and red-brown monochrome types persists from Early Classic times, but the development of cream, gray, and orange slips appears vigorous, especially in the Coban district (Chipoc).

2.) Shapes inherited from the Early Classic remain popular, with tripod supports superseding ring bases. Flanges are again less frequent in AVP than in the Ixil zone, where Batz and Early Cotzal display more varied bowl profiles.

3.) One determinant innovation is the flat base cylinder and similar shapes (i.e., "barrel shape"). Gray,

cream, and black-brown monochrome cylinders bearing diverse decorations by surface modification offer some of the most specific typological similarities between both zones, although incision on cylinders is more elaborate in southern AVP. Cylindrical shapes are generally associated with the most complex decorative modes, except negative painting.

4.) The decoration techniques are inherited from Early Classic times--at least in the Ixil zone--but their numerous combinations, the diversity of motifs, and the quality of execution strongly contribute to renew the subcomplexes. Simple- and complex-design incision is combined with grooving, gadrooning, excision, and application. Those techniques in turn are associated with positive bichrome painting.

5.) Negative painting (resist and reserve) stands by itself, or sometimes combines with positive polychrome painting (mainly in Chama 3). Resist-painted basal ridge or basal flange bowls are popular in the Batz, Early Cotzal, and Chipoc complexes. Actually, those complexes can be characterized by negative painting better than by positive polychrome decoration.

Spatial Variation in Service-funerary Subcomplexes (Southern AVP)

In southern AVP, it seems that there was a tendency for Classic highland traditions to merge with Late Classic lowland-derived influences. But apparently this process reached different degrees of achievement and intensity from place to place. In the Tactic district, post-slip incised cream and orange monochrome types and one positive polychrome type, Nopal Trichrome (Coban 2), can be said to show lowland influences: the former are related to Ojo de Agua Incised, the latter to the Palmar and Saxche Polychrome groups of the Tepeu 1-2 horizon. The rest of the local Coban 2 subcomplex remains in line with Early Classic highland traditions, although it virtually lacks negative painting. Cylindrical shapes, considered to be a hallmark of Late Classic lowland ceramics, are scarce in the monochrome types and even in Nopal Trichrome they do not reach 30% of rim sherds. Nopal cylinders feature simple designs combined with grooving or fluting and application.

In contrast, the Coban district service pottery presents more pervading influences from Chama and the lowlands. While the popular resist-painted basal ridge (or flange) tripod bowls may derive from an Early Classic northern highland tradition, incised and carved-incised monochrome cylinders, as well as incised and painted cylinders represent complex combinations of highland and lowland modes. The most illustrative type is Cream-and-

black-on-Mikado Brown Incised Type A of Chipoc (Smith 1952: Fig. 14; Coban 2: Nitro White Incised and Nispero Trichrome Incised; Cream-on-Mikado Brown Incised occurs in the Tepeu 2 complex at Uaxactun, R.E. Smith 1955:34). Anthropomorphic and zoomorphic figures are incised, and colored by means of a reserve technique. Similar complex decoration can be seen on bowls with basal or medial angle, a shape also present in Chama 3.

The variation pattern from Coban to Tactic and southward apparently has no significance at the functional level, all provenience contexts being relatively unspecific. It does not seem to have any temporal significance either, since Nopal Trichrome (Tactic district), Cream-on-Mikado Brown (Coban district) and several types related to Ojo de Agua Incised (both districts) tie Coban 2 and Chipoc to the Tepeu 1-2 horizon. Although some carved-incised complex decoration present in the Chipoc complex might be closer to Chama 4-Tepeu 3 than to Chama 3-Tepeu 2, any significant temporal variation is difficult to assess. So far, the variation pattern appears to be primarily spatial. It is related to a process of diversified lowland influences diffusing into southern AVP and northern BVP (for partially similar statements, see Rands and Smith 1965:133, and Becquelin 1969:93).

Interregional Connections

The interregional connections of Coban 2 and Chipoc ceramics link southern AVP with three regions, the Peten lowlands, the Ixil zone, and the Sierra de Chuacus. The lowland-Ixil zone-AVP relationship bears mainly on the service-funerary subcomplexes, while the Chuacus-AVP relationship involves mainly the utilitarian subcomplexes.

Some comparisons that do not conform this framework should be mentioned. They include a general similarity between the main utilitarian types of the Ixil zone and southern AVP (see above), as well as typological affinities linking black-brown monochromes and red-on-cream and red-on-orange bichromes of southern AVP and the Chuacus region (Rio Negro-Chixoy valley, middle Motagua valley). However, those types are far from covering the diversity of the Chipoc-Coban 2 fine ceramics.

Affinities with the Peten lowlands set the Ixil zone and AVP service-funerary subcomplexes well apart from other highland subcomplexes. Batz, Early Cotzal, Coban 2, and Chipoc share some markers of the Tepeu 1-2 horizon: Saxche and Palmar Polychrome groups (for the Ixil zone, see Becquelin 1969:119; and Adams n.d.), basal-ridged tripod bowls, tripod polychrome bowls, flat-bottomed cylinders, and Ojo de Agua Incised decorative modes (see Willey *et al*. 1967: Table 1). Logically, this list could

allow Batz, Early Cotzal, Coban 2, and Chipoc to be included in the Tepeu 1-2 horizon, since the original horizon concept ". . . need imply no more than a few connections at the modal level. . ." (Willey et al. 1967:306). Chama 3 should also be included. However, the list lacks one essential component of the Ixil zone and AVP subcomplexes, i.e., negative painting. How the various modes of this general decoration (pre- or post-firing, reserve, resist, bichrome, trichrome) combine and are spatially distributed in the Peten lowlands should be assessed before any northern highland complex can be included into Tepeu horizons.

In contrast, strong typological connections exist between the southern AVP and Ixil zone service-funerary subcomplexes, although comparisons should actually be made at a group level. Those connections reasonably cover the typological diversity of all four subcomplexes (see above). They should allow the definition of a ceramic sphere functionally restricted to service-funerary pottery. Spatially the sphere would extend over the Cuchumatanes-Alta Verapaz range (Fig. 1). It is thus provisionally named the Cuchumatanes ceramic sphere. Because of its clear affinities in service pottery with the Ixil zone, Zaculeu might be included in the sphere's western fringes. The inclusion of the Chama site is more controversial due to its specific polychrome components (positive and negative painting), which are scarcely represented in the Cucumatanes-Alta Verapaz highlands. The formation of this ceramic sphere in Classic times may have involved two different processes. One relates to the emergence of the negative-painting horizon which extends from Zaculeu to Coban. Even if it encompasses several techniques and styles represented in the northern highlands, negative painting is an important marker of the Cuchumatanes sphere and its development should be analyzed. The other process involves the Tepeu 1-2 horizon. It is suggested that the diffusion of ceramic ideas from the Peten lowlands stimulated the formation of the Cuchumatanes sphere. In sum, a rigorous definition of this ceramic sphere and of the exchange process involved in its formation and persistence would contribute to a better knowledge of the highland-lowland ceramic relationships during the Classic period. Given the complex representations shown on AVP and Ixil zone vessels, the question has some iconographic interest also.

A second ceramic sphere can be defined on the basis of compared utilitarian subcomplexes of southern AVP and of the Sierra de Chuacus. Chipoc jars and large bowls have been related to those of Zacualpa (Smith 1952:233). This comparison also applies to the Coban 2 material, which presents strong typological links not only with Zacualpa but also with the Rio Negro-Chixoy valley and the middle Motagua valley (Pokom, "Chixoy," and Magadalena

complexes; Wauchope 1948; Ichon, this volume; Smith and Kidder 1943). Red jars with applied impressed adornos ("ahau" motif) sharing similar profiles, as well as "cream-smoothed" comales and large bowls or basins, define the main typological components of all complexes involved in the proposed sphere. Duck-pots are distributed over BVP (and Quiche) but seem to be absent in the middle Motagua valley. The ceramic sphere is given the provisional name of Chuacus since it extends to both flanks of the Sierra de Chuacus in southern AVP, in BVP,[4] and along the middle Motagua valley (Fig. 1). Although a few comparisons bearing on service types from these regions have been mentioned (see above), the Chuacus sphere encompasses primarily the utilitarian subcomplexes. This fact suggests that economic exchanges and possibly ethnic relationships may have been involved in the process of the Chuacus sphere formation during the Classic periods. Linguistic and ethnohistoric data point to the presence of Pokom-speakers at least in Baja Verapaz and southern AVP during Classic times (Arnauld, in press). However, the postulate that relates domestic pottery to an ethnic affiliation is open to question. In the present case, its validity should be assessed only after the entire archaeological context of the Chuacus sphere regions have been analyzed.

To summarize, the most important interregional relations of the Coban 2 and Chipoc complexes link southern AVP with the Peten lowlands and the highlands as well. As far as fine service-funerary pottery is concerned, Coban 2 and Chipoc are close to the Ixil zone and Peten ceramics. Their coarser domestic pottery relates them to the highlands, specifically with the eastern part of the northern highlands.

EPICLASSIC AND EARLY POSTCLASSIC COMPLEXES

Funerary Ceramics

Chama 4, Chipal 1, Seacal, and Batz-Tziquin Transition are complexes defined to isolate several new traits that make their appearance at the end of the Late Classic period, or "Epiclassic," in AVP and in the Ixil zone (Fig. 3). Reference can also be made to the brown molded-carved cylinders from the Chajcar site (southern AVP, Coban district), and to the Epiclassic complex of Los Encuentros (Rands and Smith 1965: Fig. 17e; Ichon and Hatch 1982). Tohil Plumbate, Fine Orange of the Altar and Silho groups, and red-brown monochrome wares (Butler 1940:260) are among the shared components of these complexes, Fine Orange being scarcely represented in the Ixil zone. New shapes include ring-stand cylinders, piriform jars, and rounded-tripod bowls. As noted long ago by Butler (1940:261), Late Classic polychrome painting

tends to be replaced by incision, carving, modeling, plano-relief. Several Chama 4 and Chajcar cylinders offer remarkable examples of complex-figure decoration executed by these techniques, which are not exclusive of the Fine Orange groups. However, positive and negative painting persist, the former associated with high-neck globular jars and piriform jars, the latter with effigy-head tripod bowls (Chama 4, actually a rare association).

Except for the Batz-Tziquin transition, these complexes contain funerary vessels only. The rest of the ceramics in use during the same period were poorly known until more recent research was done in the Ixil zone, in southern AVP, and northern BVP (Becquelin 1969; Adams 1972; Arnauld 1980; Ichon and Hatch 1982). It was suspected that the known complexes were indeed funerary subcomplexes, intrusive into contemporary service and utilitarian assemblages basically similar to the Late Classic complexes. Most recent data, especially those from Los Encuentros (Ichon, this volume), have confirmed this assumption.

The Samac Complex of Southern Alta Verapaz

Samac is a small complex derived from the seriation of some sherd-lots recovered in ten sites in southern AVP and the extreme northern BVP. They contain an assemblage of Coban 2 and carryover types, plus three new types that will define the Late Postclassic Chican complex, and also several Samac exclusive components.

The Samac components include some of the Epiclassic markers, most of them found in funerary contexts at Sulin: geometric carved-incised decoration on effigy-head tripod bowls (Jamaica Bichrome Incised), one incised polychrome piriform jar, red-slipped effigy-head tripod bowls, and a few fine paste sherds. Samac also features three new domestic types distinct from the Coban 2 and Chican types: Matapalo Porous, Jabilla Coarse, and Linaza Coarse. They introduce new paste texture and composition, as well as new comal shapes (short rim) and new jar profiles (high unmodified necks). A fourth type, Membrillo Fine, is characterized by a medium-fine hard paste. Those four types are unslipped and crudely surface-finished. The Samac typological inventory is completed with two decorated types, Laurel Red-on-Black and Lima Brown Incised, which both derive from black-brown and cream types of the Late Classic, but they appear to be poorly executed. In brief, the Samac complex suggests that three tendencies were at work, a) innovation in the funerary subcomplex, b) technological and morphological change in the utilitarian subcomplex, and c) continuity but mediocrity in the fine service subcomplex. Given the limited sample available for each Samac exclusive type, these tendencies should be considered hypothetical.

They appear, however, to be consistent with the trends shown by the Coban-like and Chican-like ceramics stratigraphically associated with the Samac types. None of the Sulin burial contexts contain Coban vessels. Typological and modal diversity of Coban 2 service pottery is greatly reduced in Samac levels. The Chican types are characterized by a hard compact paste, and also by those new jar and comal profiles present in the Samac exclusive components. In sum, some consistent picture emerges of an apparently gradual transition from Late Classic to Late Postclassic ceramics, marked by the intrusion of new funerary pottery, the introduction of changes in domestic pottery, and a clear continuity with Coban 2 ceramics. The Samac and Chican domestic types do not replace Mostaza Red-on-buff and Chatillas Smoothed (Coban 1-2), which persist but in lower frequencies.

Chronology

The contemporaneity of these trends is difficult to assess for AVP and the Ixil zone. In their sequences, Butler and Smith place the funerary subcomplexes at the end of the Late Classic, suggesting that they may not persist until the end of the Early Postclassic (see Table 2). As a matter of fact, the Samac funerary components found at the Sulin site are stratigraphically associated with pure Coban 2 occupational levels. But this is only one of the few cases where context is controlled. The evidence available does not allow closure of the funerary subcomplexes around 1000 AD; they may continue later on until 1100 (Ichon, this volume), or perhaps until 1250, the terminal date traditionally assigned to the Early Postclassic phase. The Nebaj Tomb VIII, which contains Plumbate vessels, has been radiocarbon dated A.D. 1190 +/- 60. A workable hypothesis is that, while the funerary subcomplexes begin at the end of the Late Classic in all regions, they may have had different durations from zone to zone.

Interregional Connections

Much has been said about the "Mexican" origin of several Epiclassic traits (for a critical review, see Carmack 1968:59). Some anthropomorphic effigies applied on Tohil Plumbate jars from AVP, Mixtec-type censers, and one Yalton Black-on-orange vessel from Tzicuay (Ixil zone, Adams n.d.) are probably of Mexican origin, or may have their origins in mexicanized regions. AVP received northern influences by way of the Usumacinta-Chixoy valley. Fine Orange vessels found at Kixpek (middle Chixoy valley) are imports from Piedras Negras (Smith 1958). Most Fine Orange examples of AVP come from the middle Chixoy valley and are related to the Fine Orange types of the Usumacinta-Pasion zone (Rands and Smith 1965:135; Adams 1971:50). The molded-carved cylinders

from Chajcar are compared with Pabellon Molded-carved (Altar Fine Orange group, although the Chajcar vessels are not Fine Orange; Rands and Smith 1965:131).

Whatever significance it may have for the historical reconstruction of the ninth-to-eleventh centuries on the fringes of the Peten lowlands, this northern connection must not be overemphasized. The quantitatively major components of the Early Postclassic complexes under review remain in line with the Guatemalan highland contemporary developments. Changes in paste texture and composition of domestic pottery, as well as in jar and comal shapes, have been noted in Postclassic material from Zacualpa (Tohil complex) and from Rabinal sites. Effigy-head tripod bowls and geometric incised decoration of Tziquin, Late Cotzal, and Samac complexes have equivalents in many areas of the highlands, the Zaculeu examples being the best known (Woodbury and Trik 1953:155). Otherwise, one Nicoya Polychrome vessel found in funerary context at the Samac site near Coban is probably an import from Central America (Smith 1952: Fig. 26, caption).

LATE POSTCLASSIC COMPLEXES

Main Trends and Components

Little typological diversity characterizes the Late Postclassic material: six and eight types respectively define the Chican and Chajul complexes; seven types account for 94% of Umul (Fig. 3). In each complex, the modal inventory in shape, surface treatment, and decoration is equally limited. The distinction between utilitarian and fine service pottery does not easily apply to this material. Very few funerary vessels are known and sophisticated trade wares are scarce.

Development out of Early Postclassic ceramics can be traced especially in textural changes from soft and coarse to relatively compact hard pastes, in comal shapes with short rim, and also in jar shapes, because the unmodified high-neck jar becomes the exclusive profile.

The dominant components of the Chican complex are Malva Plain Grey, Mango Plain Red, and Manzana Striated, three types that had appeared in Samac times and now reach high frequency. Along with Xim Plain, Tuja Red-brown (Chajul complex), Jolom Brown, and Xolcom Brown-red (Umul complex), these types have a compact hard paste, an unslipped red to red-brown or gray surface, and feature the high-neck jar shape. Neck and body of jars frequently show striae or scratches. Local differences bear on the frequency of comales, more popular in the Ixil zone than in AVP, and on the peculiar small handles or tenons attached at midpoint on Chican jars. The quality of

shaping and surface finish also varies significantly.

The red-slipped types are quantitatively less important than these unslipped types, except for Bipana Red in Umul. Bipana Red is possibly part of Tuja Red-brown (Chajul), Mamey Red (Chican), and Fortress White-on-red (all complexes), for all share a hard gray paste, a coarsely polished red slip showing fine striations, and the standard jar shape. In the Ixil zone, horizontal fluting frequently decorates jar rims. Although present virtually everywhere, Fortress White-on-red does not reach any significant frequency. There is apparently a long tradition of "white line on red" pottery in the middle Chixoy sites, but its relationship with Late Postclassic Fortress is unclear (Butler 1940:161, 262). In any case, some affinities between the red-brown wares of the Early Postclassic and the Late Postclassic red-slipped types are possible, for they share the effigy-head tripod bowl, although this form is much less frequent in Late Postclassic times.

A handful of micaceous sherds have been recovered in southern AVP. This ware is abundantly represented in Late Postclassic sites around Rabinal. Two minor types of the Ixil zone (Umul complex) have mica inclusions and may be related to the micaceous ware. As for Chinautla Polychrome, only a few sherds have been recovered from Acul sites in the Ixil zone (Umul), and none in southern AVP.

Unslipped ladle censers with geometric decoration molded or incised on the bowl part are the best documented censer category for the period. Sherds bearing textile or petate impression also seem to provide a marker for the Late Postclassic.

Interregional Connections

More excavations are needed in Late Postclassic sites but it already appears that the Late Postclassic complexes of southern AVP and the Ixil zone are essentially local. The virtual absence of Micaceous and Chinautla Polychrome pottery suggests that the relations with the Chuacus regions had weakened since the precedent period. At least the AVP region is known to have been relatively isolated from the rest of the highlands in Proto-historic times, following the Quiche-Cakchiquel expansion into BVP (Arnauld 1980, in press). However, the red-slipped types such as Mamey Red can be specifically compared with several red types well distributed from central Quiche to Chiapas. The reference units may be Cinnamon and Xinabahul Orange-red of Zaculeu (Woodbury and Trik 1953:174). Fortress White-on-red also provides a link with many highland regions.

At the present time, Mamey Red jars are still produced in the Chichen hamlet and sold on the Tactic market. Large bowls and comales of micaceous paste are manufactured in the Salama valley and exported to AVP.

CONCLUDING REMARKS

The Classic-Postclassic ceramic sequence of southern AVP is basically characterized by continuity. Several long-enduring traditions develop from Late Preclassic to Early Postclassic times. Red-on-buff and red-slipped jars, "cream-smoothed" comales and basins, as well as black to black-brown bowls are among those traditions. In turn, cream and orange slips were favored mainly during the Late Classic phase, and the same can be said of bichromes, either positive- or negative-painted. Polychrome painting never equaled the frequency and elaborateness of the various decoration techniques by surface modification. The latter also pertain to a long tradition in AVP. Diversification is what really differentiates Late Classic from Early Classic ceramics.

The end of the Terminal Preclassic and an undetermined moment during the Early Postclassic phase represent turning points in the sequence. Accelerated change and a reorientation of trends took place, but there was no real rupture. Little is known about the ceramic processes involved in these changes, mainly because the quantitative definition of the corresponding ceramic complexes is limited. Several of the new components, like Chipilin Red in the Early Classic complex and the coarse domestic types in the Early Postclassic complex, apparently do not have any direct ancestor in the preceding complexes.

Generalizing from interregional comparisons, one can say that the end of Preclassic times locally marks the beginning of a long period characterized by an intense participation in highland and lowland ceramic developments. The Early Postclassic phase closes this period and, though foreign funerary ceramics were introduced into AVP at the beginning of this phase, most determinant Late Classic connections weakened. They do not seem to have been revived during the Late Postclassic period.

Notes

[1.] As a project of the Mission Archeologique et Ethnologique Francaise au Mexique (now Centre d´Etudes Mexicaines et Centramericaines, Mexico City), survey and excavations in 14 sites were conducted in southern Alta

Verapaz and in the extreme north of Baja Verapaz during twelve months in 1974-1975 (Arnauld 1980). The monograph is to be published in 1986 (Arnauld, in press). A total of 37,110 sherds and 30 whole vessels were recovered. The ceramic complexes were defined on the basis of 19,212 classified sherds: 130 for the Early Preclassic, 1,024 for Carcha, 1,000 for Coban 1, 13,360 for Coban 2, 1,271 for Samac, and 2,427 for Chican.

[2.] Duck-pots, "duck-pot censers," or "duck-bill covers" (Borhegyi 1952) were probably used as supports for cooking jars or comales set in the fire-pit, rather than as censers or covers.

[3.] Patulul-Perdido group, Laguneta, Bilbao (Parsons 1967:139-140; Red with Reserved Orange, Lato, middle Motagua valley (Smith and Kidder 1943:156-158); Arenal Red: Polished, Arenal-Aurora, Kaminaljuyu (Wetherington 1978:80, see Comments); Roqueno Red, Lililla, La Lagunita (Ichon and Arnauld 1985:133); Xic Fine Red, Early Classic, Alto Samala (Ciudad Ruiz 1983:7); Champul Maroon-on-orange, Tuban, Ixil zone (Adams n.d.); red vessels from Tzicuay (Ixil zone) stored in the Museum of Guatemala; Red-on-buff, Atzan, Zaculeu (Woodbury and Trik 1953:135).

[4.] At the Conference, Ichon and I tentatively suggested that the Chuacus sphere could also extend on eastern Quiche and westward up to Totonicapan. I now think that such an extension is premature and I retreat back to my original definition of this ceramic sphere (Arnauld 1980, in press: Fig. 1).

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n.d. Ceramics from the Cotzal district, Quiche, and from Chajcar, Alta Verapaz. Ms. in possession of author.

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14

Recent Research on the Preclassic Ceramics of the Southeastern Highlands and Pacific Coast of Guatemala

Arthur A. Demarest

The past decade has seen many important researches and discoveries in the southeastern highlands and the Pacific coast regions of Mesoamerica. Here I summarize some preliminary information on these new researches from the southeastern area, concentrating on ceramic studies and discoveries of the Preclassic period with reference to the newer publications, works in press, unpublished manuscripts, or ongoing studies in these areas.

From the viewpoint of a comparative ceramic conference, one of the more relevant recent items is the definition of Preclassic ceramic spheres for the southeastern portion of the southern highlands. Building from well-controlled deposits and ceramic analyses at Chalchuapa and Santa Leticia in western El Salvador, Bob Sharer and I have defined ceramic spheres and their major types, groups, and modes for this region (Demarest 1986; Demarest and Sharer 1986). Comparative taxonomic studies--involving both type-variety and modal analyses--have indicated that a zone of great ceramic similarity extended from at least as far west as Kaminaljuyu into western El Salvador. Figure 1 shows the approximate area of the proposed Late Preclassic ceramic spheres and some of the sites that were included in their definition and study. Ceramic assemblages within this zone from at least 500 BC to about AD 250 shared the major fine red, orange, and black monochromes in all of their complex modal manifestations and forms. Sphere sites also shared the major Usulutan ceramics including cream underslipped types and the unslipped or Izalco group Usulutans. Late shared types included the coarse incised Osuna group ceramics in their characteristic flower pot forms. Also shared were most minor types, censer forms, and most modes in the various local red-on-buff jar traditions. Overall, comparative studies indicated ceramic spheres for this zone that are as tight as those in the Maya lowlands--

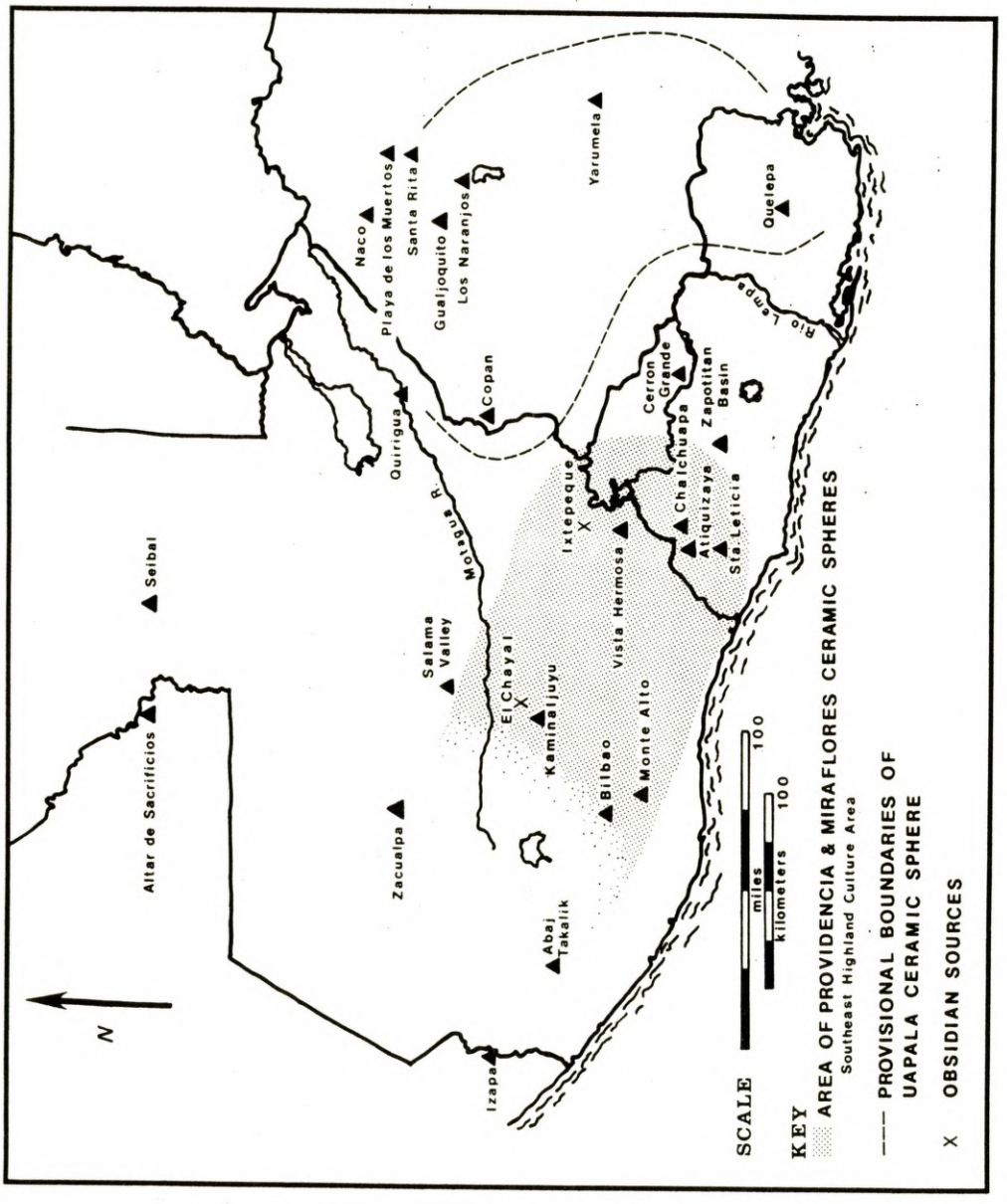

Fig. 1. A plotting of the approximate areas and some sites in the Late Preclassic southeast highland ceramic spheres.

where recent interpretations have tended to move in the opposite direction, indicating greater diversity.

These specifically defined and plotted ceramic spheres have provided a foundation for numerous more focused studies of ceramic composition, special types and technologies, culture historical problems, and the issue of social correlates for the observed artifactual patterns. Chemical composition studies (Bishop, Demarest, and Sharer, in press; Bishop and Demarest 1986) have included neutron activation analyses conducted by Ronald Bishop at Brookhaven National Laboratory. These studies demonstrated that the fine black, orange, and red wares were locally produced in each sub-region despite their near identity macroscopically. A close sharing of stylistic norms and technology was apparently the principal source of intersite ceramic similarity. Only selected fine wares were traded across the sphere area. For example, Kaminaljuyu's fine incised hard black ceramics were apparently manufactured only in the valley of Guatemala and traded as far away as western El Salvador.

Studies of the chronology, development, variation, and technology of Usulutan decorated ceramics have been based on our greatly expanded sample from the southeast highlands and adjacent areas. Sharer and I have proposed a chronology and evolutionary sequence for the Usulutans of western El Salvador, where Usulutan decoration was found on over half the pottery from nearly all the major ceramic groups (Demarest and Sharer 1982). In my own typological analyses there I have treated it as a mode or modes rather than as a type, group, ware, or other class.

Technical studies of Usulutan surfaces have been conducted by Mary Hopkins (Hopkins 1986). Hopkins' studies, conducted at the Massachusetts Institute of Technology, have involved scanning electron microscopy, proton microprobe, refiring experiments, and other technical analyses that have disproved most of the popular hypotheses on the method used to produce the Izalco-style Usulutan surfaces. The precise method used remains uncertain, but there are some promising leads from recent studies. It now seems most likely that the Usulutan surfaces were created by altering the color of the dark background zone. This may have been done with either a penetrating aqueous iron wash, an alkali paint, or some other chemically active agent (Hopkins 1986:248-249).

Other studies have focused on specific culture-historically important types, groups, or modes. One such finding worthy of note is that Aguacate Orange: Atecozol variety of western El Salvador probably did not have any relation to the important Aguacate Orange ceramics of Protoclassic and Early Classic Belize as Gifford, Sharer

Willey, and others had originally posited (Demarest and Sharer 1986; Demarest 1986: Chapter 6; cf. Gifford 1970; Sharer and Gifford 1970; Willey and Gifford 1961; Sheets 1976). Sharer and I have tentatively proposed that the highland Terminal Preclassic polished orange ware be redesignated the Atecozol group, rather than Aguacate Orange. Conversely ceramics classified into several of the classes defined by Wetherington's Kaminaljuyu classification include many sherds of the orange/red Atecozol highland group. It appears, then, that the highland Atecozol (alias Aguacate) group is another evidence of intra-highland ceramic similarity, not long distance contact or intrusion in the Maya lowlands.

In fact, these more systematic understandings of highland assemblages have allowed a general reassessment of highland-lowland comparisons and theories of the highland contribution to the Floral Park and other Protoclassic ceramic components and features in the Maya lowlands. Overall, the new evidence and studies have negated earlier hypotheses of migrations, influences, or events that were previously perceived in the ceramic record. None of the major diagnostic groups of the ceramic spheres appears in the lowland Protoclassic components. Considerable exchange of modes occurs but does so gradually over four to five centuries, indicating a continuous lattice of highland-lowland interaction and exchange rather than focused events or intrusions.

Within the southeast highlands themselves in the Late Preclassic the close similarities in ceramics were paralleled by shared types of figurines, chipped lithics, groundstone, sculpture, architecture, burial practices, and so on to produce a configuration like the traditional "archaeological culture area." At this point it is only possible to suggest hypotheses on social correlates for the pattern and on mechanisms of interaction and interregional cohesion (Demarest 1986; Demarest and Sharer 1986).

Farther to the west, analyses in progress promise to extend and refine our knowledge of ceramic patterns in the highlands. The materials from Robert Wauchope's excavations in the 1970s in highland Jutiapa and Santa Rosa are now being classified by Margaret Bond (personal communication, 1985, 1986). These materials include the ceramics of Vista Hermosa (see Fig. 1). Preliminary results on Middle to Late Preclassic materials indicate a ceramic assemblage possessing all of the sphere diagnostics including the characteristic red, orange, and black monochromes and Usulutan types.

In the valley of Guatemala at Kaminaljuyu, recent salvage excavations directed by Marion Hatch (personal communication, 1984-86) have altered many aspects of our

understanding of that site. Her ongoing reanalysis of the Kaminaljuyu ceramics should help produce a more easily applied taxonomy that will facilitate interregional comparisons. Hatch has used these analyses as a starting point for comparison to other highland and coastal regions (see, for example, Hatch 1985).

Turning to the Pacific coast of Guatemala, one finds that surface surveys and recent excavations have provided only an initial glimpse of coastal ceramic sequences. Nonetheless, these researches have already raised numerous problems. In the far southeast, the coast of the departments of Jutiapa and Santa Rosa has been one of the least explored regions of Mesoamerica. The only recent research on the Preclassic was a very preliminary reconnaissance that I conducted last year (Demarest, Medrano, and Arroyo, in prep.). Materials salvaged from several Preclassic sites under destruction in Santa Rosa included ceramics, figurines, and even small portable sculpture consistent with the Late Preclassic ceramic sphere definitions. Assemblages in this area have all sphere diagnostics but with a greater frequency of purple-on-fine orange ceramics, a minor type in El Salvador. Middle Preclassic materials included two figurine heads in Cochas-like "Olmecoid" style. Most interesting is the fact that assemblages as far west as eastern Escuintla are clearly more similar to western Salvadoran assemblages than to any materials farther west.

The Department of Escuintla on the central coast has seen considerable research in recent years. Most notable are studies of the Early and Middle Preclassic ceramics at the site of El Balsamo. Studies by Barbara Stark and others (Stark 1981, Stark and Heller 1981) are looking at the economics of ceramic production at that site, while Edwin Shook and Marion Hatch (1978) have undertaken general analyses of ceramics. Farther inland near the piedmont, Hatch and Shook (in prep.) have excavated at Monte Alto and their ceramic monograph--now being completed--will be a major source of information on the Middle to Late Preclassic of the central coast.

On materials of a later time level, survey and excavations in progress by Fred Bove are recovering important information on the Late Preclassic of the central coast (Bove 1981, personal communication 1983-86). These Late Preclassic occupations were radically transformed and centralized at the site of Balberta at the very beginning of the Early Classic period. This cultural transformation may involve Kaminaljuyu and/or Teotihuacan contact and possibly a greater emphasis on cacao production. In any case, it is manifested ceramically in a dramatic change involving a reduction in both the number of types and the variety of modes. This high degree of

standardization suggests the possibility of mass production of ceramics in the Early Classic.

Moving to the far western coast in the departments of San Marcos and Retalhuleu, we find the only region of the coast that has been studied for over two decades. However, recent work there by Edwin Shook, Marion Hatch, and Michael Love has tended to complicate, rather than clarify, the earlier ceramic sequences presented by Coe and Flannery. In their 1979 publication, Shook and Hatch (1979) describe excavations indicating that the San Marcos sequences might be in some way different from the Ocos-Cuadros-Jocotal-Conchas Early to Middle Preclassic sequence originally proposed by Coe and Flannery (1967) and generally confirmed by more excavation in Chiapas (e.g., Lowe 1977, 1978). Shook and Hatch recovered a new ceramic complex beneath the Early Preclassic Cuadros deposits in a clear stratigraphic situation. No one is quite certain of the relationship of this new Navarijo complex--with its diagnostic tear-shaped tecomates--to the very different thin walled Ocos ceramics.

Equally troubling is the enigmatic association between the Ocos and the Middle Preclassic Conchas phase ceramics. These complexes should be separated by several centuries according to the Coe and Flannery chronology. However, originally Coe found them together at La Victoria (Coe 1961) and recently Shook, Hatch, and Love have reported that in excavated deposits and surface surveys, Ocos materials are consistently found beneath or mixed with Conchas phase materials (personal communication, 1984-86; Shook and Hatch 1979; Love 1984). There is no deposit yet excavated in Guatemala with Ocos directly beneath Cuadros phase ceramics. However, the sample is still fairly limited. Hatch has suggested that perhaps the Ocos complex arrives or develops later in Guatemala than in Chiapas or that Ocos in Guatemala represents a distinct functional or ethnic component contemporary there with the local assemblages such as Jocotal (Hatch, personal communication, 1985, Love 1984; cf. Demarest, in press).

The exact nature and chronological placement of the Guatemalan version of Ocos may be clarified by a recent discovery farther east in Retalhuleu. There at the site of Manchon a series of large, apparently pure and undisturbed Ocos mounds (Fig. 2)--some over seven meters high--were discovered by construction activity this year (Demarest ms.). Manchon is the first large unmixed Ocos site yet discovered in Guatemala, as well as the easternmost site of that ceramic complex. Salvage excavations there are planned for 1987 that should help clarify some of the complications of the eastern Ocos culture (Demarest ms.).

Fig. 2. Reduced segment of the topographic map of the coastal Manchon area with some known mound deposits highlighted.

A more surprising find is the recent discovery of an Ocos site in western El Salvador (Dept. of Ahuachapan). Excavations are planned for 1987 at this new Ocos site (El Carmen). Its excavation should clarify and alter our understanding of the spread, extent, and regional variations in Ocos culture which is now known to range in area from central Veracruz to at least El Salvador.

Another troubling find from recent work on the western coast regards the question of "Olmec" influence or involvement there. At all of the sites surface collected or excavated by Shook, Hatch, or Love, the Early Preclassic Cuadros and Jocotal ceramics were lacking the so-called Olmec diagnostic traits (Love 1984; Hatch, personal communication 1985). Incised Olmec motifs such as flame-eyebrows, St. Andrews Cross, and wing-paw, were absent from these assemblages--again in contrast to the situation in Chiapas. Olmecoid figurines were not found in Cuadros deposits here in contrast to the Salvadoran assemblages. Differential-firing was common on Cuadros and Jocotal ceramics in the western Guatemalan collections, but true white rimming on black wares is very rare. Indeed in all respects Cuadros and Jocotal appear to be modest local developments in Guatemala. All of the Olmec or Olmecoid traits and massive ceremonial architecture appear only after 800 or 900 BC in the Middle Preclassic Conchas sites. Again this chronology does not correlate with adjacent areas in Chiapas, but is parallel to the Colos and Kal phase ceramic features and architectural florescence reported by Sharer at distant Chalchuapa in western El Salvador (Demarest, in press).

The scale of Conchas phase constructions--as revealed by salvage excavations by Shook, Hatch, and Love--was also far greater than previously imagined. The now-destroyed ceremonial complex at La Blanca had one mound over 25 m in height and overall this site may have been comparable to contemporary developments in the Olmec heartland (Shook and Hatch 1979). However, in my opinion, most aspects of the Conchas complex--especially ceramics--look distinctly southeastern, with many correspondences to the assemblages of western El Salvador.

Other surprises are surely in store on the Pacific coast as there are many large, unexcavated, and even unreported sites all along the coastal plain. For example, in Retalhuleu the sites of Rio Jesus and Ujuxte are among many unexplored Middle to Late Preclassic ceremonial centers (personal observation 1985). Ujuxte had a central area of over a square kilometer and several mounds over 20 m in height. It may have been one of the largest and earliest coastal chiefdoms.

In summary, the past decade of research in the southeast highland region of Guatemala and western El

Salvador has tended not only to fill this blank zone in our maps and chronologies, but has also challenged ceramic chronologies and interregional interpretations developed in other areas. In the next decade it is the southern Pacific coast and slopes of Guatemala that promise to be new sources of challenges and contradictions. As this long littoral "black hole" in our archaeological knowledge is explored we may once again face the need for global revisions in our interpretations of ceramic change, interregional contacts, and cultural development throughout southern Mesoamerica.

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15

Copan and its Neighbors: Patterns of Interaction Reflected in Classic Period Western Honduran Pottery

Patricia A. Urban and Edward M. Schortman

The purposes of this paper are, first, to provide a systematic overview of Honduran ceramics during the Classic era (AD 200-900) and second, to use these data to phrase hypotheses concerning patterns of interregional interaction. There are many ways we could go about this task. Our approach is conditioned by the history of archaeological research in Honduras, where investigations have traditionally focused on the Maya center of Copan and its immediate sustaining area. Within the past 20 years this situation has begun to change as work outside Copan has been systematically pursued in a variety of areas. The recency of the research, however, means that detailed reports are sparse: the best published data on ceramics and other material categories are still those from Copan.

Because of these biases, we concentrate our efforts on a set of questions related to Copan. First, we discuss the extent to which the "Maya-ness" of Copan, so evident in the architecture, planning, and sculpture of the site core, is reflected in Classic period ceramics. Second, we look at what insights can be provided into the nature of Copan's interactions with its immediate neighbors by a comparison of Copan ceramics with pottery from other Honduran sites. Finally, we try to determine what role Copan might have played in the integration of Honduran sites into wider networks involving societies in the Maya lowlands and highlands and El Salvador.

The region is the unit of primary concern to us, and not the individual site. A region is defined here as a physically bounded unit whose included contemporary sites exhibit close material--including ceramic--similarities. These similarities are the product of, and are maintained by, close interaction among site residents. Units of ceramic comparison at this level are types and varieties defined by the consistent association of stylistic

attributes, i.e., modes of surface treatment and decoration (Gifford 1960; Smith et al. 1960; Willey et al. 1967). Several regions are defined and used in this paper (Fig. 1): the Copan valley, the Comayagua valley, the northern shore of Lake Yojoa (represented solely by the investigations at the site of Los Naranjos), the Sula plain, the Naco valley, and the middle Ulua drainage of central Santa Barbara, divided into northern (Gualjoquito and Tencoa valleys) and southern (sites of El Nispero and La Mariposa) research zones. Other regions could be defined, such as the Siguatepeque, Quimistan, and La Entrada valleys, but at this point they lack sufficient published ceramic data to be useful.

Regions can be grouped into larger interaction networks including the residents of several inter-communicating areas. The more similar the ceramics of two regions are in terms of their stylistic attributes, the higher the degree of inferred ancient interactions. But, if types and varieties are the units of ceramic comparison at the regional level, what can we use for a similar purpose at larger spatial scales? Following the lead of the 1985 and 1986 Honduran Ceramics Conferences (see Henderson and Agurcia, this volume), we argue for the use of the "ceramic system" (Gifford 1976:12). A ceramic system is a collection of homologous types within a single type class of pottery (cf. Gifford 1976:16-17), found in a number of different regions. A system represents a continuous temporal span and, ideally, spatial distribution. Types and their varieties fall within the same system if they share a significant number of modes of surface treatment and decoration. Regions that share representatives of the same ceramic system therefore give evidence of ancient interaction; the more systems shared between two or more regions, the greater the inferred interaction.

Participants at the 1986 Honduran Ceramics Conference adopted the terms "systems" and "subsystems" as integrative units, the former referring to broad level similarities in surface treatment and decoration among types, the latter to finer subdivisions within the system. We feel the system/subsystem terminology has certain disadvantages, in particular the redefinition of the system concept. Our compromise is the "supersystem," defined as a category containing two or more systems whose component types exhibit general commonalities of surface treatment and decoration, suggesting a common, if remote, inspiration and which are found over a continuous spatial and temporal span.

The use of the supersystem allows us to maintain the original definition of the system, while still stressing significant relations among systems. A further advantage of the supersystem is that it is and integrative unit

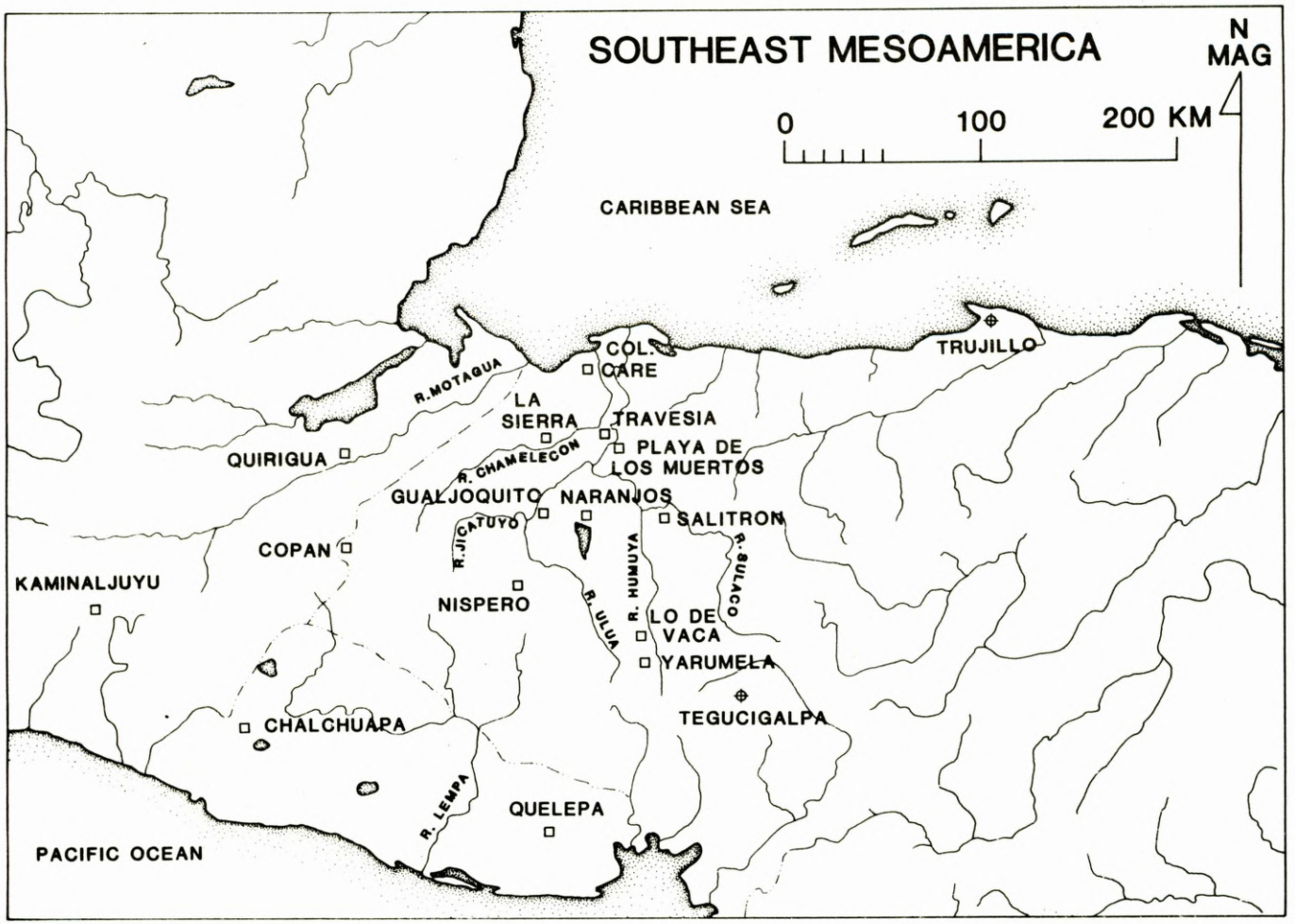

Fig. 1. Map of the southeast Maya periphery showng the location of sites mentioned in the text (from Schortman, Urban, Ashmore, and Benyo, in press, "Interregional interaction in the Southeast Maya Periphery: The Santa Barbara Archaeological Project 1983-1984 Seasons," Journal of Field Archaeology).

designed to subsume lower level integrative units (unlike the type class, which does not necessarily reflect interareal ties and communication). Not all systems need be grouped within supersystems. The unit of interregional comparison remains the system, because it is among types within these categories that similarities are the closest, implying direct contact and the spread of ideas. Supersystems are less useful on the level of regional comparison; although their component systems are presumed to have derived from similar inspirations, the likenesses are on such a general level that they need not imply direct contact among the pottery manufacturers.

The above discussion focuses on similarities among locally produced wares and ignores ceramic trade. Clearly the presence of imported vessels from known sources within an area gives the most direct evidence of contact. Nevertheless, we are currently not in a position in west-central Honduras to securely identify pottery sources for more than a few types (Beaudry 1983; Bishop et al. 1986). Inferences of ceramic exchange, where posited, rest primarily on the subjective criteria of diversity and abundance and can only be cautiously used to supplement hypothesized interaction patterns based on system comparisons.

The relevant phases from regions producing ceramic data belonging to the Early Classic are: Copan (Bijac and Acbi, AD 200-700, only the first part of Acbi is included in our consideration of the Early Classic, Viel 1983; cf. Early Classic First and Second Parts, AD 420-580, Longyear 1952); Los Naranjos (latter part of Eden II, 100 BC-AD 550, Baudez and Becquelin 1973); the Naco valley (Period IV, AD 300-600, Urban 1986); central Santa Barbara (Early Classic, AD 200-600); and the Sula plain (Choloma III, Colonia Care, Sheehy 1979). During the Late Classic the following phases and regions are pertinent: Copan (end of Acbi through Coner, AD 700-850 for Coner, Viel 1983; cf. Full Classic, Longyear 1952); Los Naranjos (Yojoa, AD 550-950, Baudez and Becquelin 1973); Naco valley (Period V, AD 600-950, Urban 1986); central Santa Barbara (Late Classic, AD 600-950); the Sula plain (Late levels at Travesia, Joyce 1983a; Sheehy 1978; Stone 1941; and Santa Rita, Las Flores Bolsa, and Playa de los Muertos, Strong, Kidder, and Paul 1938); and the Comayagua valley (Lo de Vaca III, Baudez 1966; Yarumela IV, Canby 1949, 1951).

The analyses of ceramics from western and central Honduras represent a mosaic of methods. The majority of research projects have employed the type-variety-mode method of ceramic study (e.g., Urban 1986; Schortman et al. 1983; Viel 1983). Some, however, used modal analysis alone (e.g., Baudez 1966) while still others have combined the two (Baudez and Becquelin 1973). The problem is that these different approaches result in drastically different

descriptions of recovered pottery. In many cases, modal studies stress attributes of surface treatment and decoration, and attributes of form and paste can sometimes be linked to these stylistic modes. In this way type-variety units can be reconstructed from published modal descriptions, although these reconstructions remain tentative.

This study is based on our own analyses of materials from the Naco valley and the middle Ulua drainage, and a review of the published literature on Classic period Honduran ceramics. This was supplemented by the direct visual comparison of ceramics from the first two regions with study collections from the Copan, Sula plain, and northern Lake Yojoa zones.

The seven centuries of the Classic era are traditionally divided in the lowland Maya area into Early and Late subdivisions. These roughly correspond to Healy's (1984) temporal division for Honduras into Periods IVb and V. In this paper we apply the traditional terminology and divide the Classic period of western and central Honduras into two units: Early Classic, AD 200-600, corresponding to the latter part of Healy's period IVb and the beginning of V; and Late Classic, AD 600-900, the majority of period V in Healy's scheme.

EARLY CLASSIC (AD 200-600)

The Early Classic is one of the least understood periods in Honduran prehistory. In this period, the ceramics are grouped within general supersystems defined broadly by surface treatment and decoration where appropriate, although the Chinacla, Loma Larga, Cancique, Hijo, and Iotampoco systems are not placed within larger supersystems. In addition, a residual category is comprised of ceramics that do not fit within the above systems. Several of the latter are rare in local collections and appear to be imports.

Papalaja Supersystem

Vessels within this supersystem are largely open bowls decorated with negative painted linear and blotchy designs. Two ceramic systems constitute the Papalaja supersystem: Sumpul and Bolo.

Sumpul system. Pottery in this class is distinguished by a hard, fine tan paste and a single burnished orange slip on the interior and exterior (Izalco Usulutan; Demarest and Sharer 1982). Decoration appears as negative painted linear or curvilinear patterns. Incised or grooved decoration on or just below vessel rims is common. The most frequent form is a flaring wall bowl supported by 3-4

nubbin feet. Usulutan vessels change little between the Late Preclassic and Early Classic, the principal modification being a greater range of supports, with hollow conical and mammiform tetrapods supplementing the earlier solid nubbins. Basal flanges, sometimes scalloped, also appear.

Single slipped Usulutan pottery is found at all sites in the study area save Travesia and the Naco valley. Copan (Izalco Usulutan, Viel 1983:505-506, Chabij to Coner phases; Burnished Ware, Longyear 1952:92-95) apparently produces the largest amount of this pottery though precise proportions are not yet available. Sumpul specimens are especially prevalent during Copan's Bijac phase; by early Acbi Usulutan frequencies drop noticeably. Clearly, however, Sumpul system sherds are a major proportion of the Early Classic assemblage. Copan also has the greatest diversity of forms, including composite silhouette bowls and low necked globular jars, as well as flaring wall bowls (Longyear 1952:92-95). These forms are found rarely if at all at other western and central Honduran sites.

Gualala Streaky Slip in central Santa Barbara is a local imitation of Izalco Usulutan. Forms are open bowls whose surfaces are covered by a well-smoothed to burnished streaky orange slip decorated with weak negative painted lines and blotches. Gualala represents ca. 6% of the Early Classic assemblage. The existence of local imitations of Izalco in other regions was noted at the 1986 Honduran Ceramics Conference but these taxa remain to be described by their excavators.

Central Santa Barbara (Izalco Usulutan), Colonia Care (Muerdalo Orange, Sheehy 1979:49), and Los Naranjos (Muerdalo Orange, Baudez and Becquelin 1973:170-184) have lesser quantities of this ceramic (8-15% at Los Naranjos, ca. 10% at Colonia Care. As at Copan, Sumpul types drop in frequency in the later part of the Early Classic in central Santa Barbara and at Los Naranjos.

The widespread distribution of Sumpul pottery ties Copan with a wide range of western and central Honduran regions. Moreover, Izalco Usulutan pottery is found beyond western and central Honduras into El Salvador, eastern Guatemala, and Belize. This pattern suggests that the study area was merely a segment of a large interaction network along which single-slipped, negative painted vessels, or the inspiration for their local production, flowed. The concentration of Sumpul pottery at Copan and the diversity of forms found there suggests that the residents of the center may have played a significant role in this communication system, perhaps linking Honduran sites to Copan's east with populations beyond the study zone. The observed distribution pattern may have originated in the Late Preclassic.

Bolo system. Double-slipped Usulutan decorated vessels with a white to pale brown underslip covered by a red-orange slip represent an ancient Preclassic tradition (Demarest and Sharer 1982). The lighter underslip shows through as the negative painted decoration (Baudez and Becquelin 1973:183-193). Surface treatment, decoration, and forms closely resemble Izalco/Muerdalo types in the Early Classic. Double-slipped Usulutan has been found primarily at Los Naranjos (Bolo Orange; ibid.) where it represents roughly 9% of late Eden II collections. It has also been reported in small amounts at Colonia Care (Bolo Orange; Sheehy 1979:49) and more abundantly elsewhere in the Sula plain (e.g., Joyce 1983b:6).

Choloma Supersystem

Vessels in this category are generally open bowls slipped orange and decorated with red painted designs. Two systems are contained: Chilanga and Chasnigua.

Chilanga system. Pottery in this system is distinguished by a hard, fine tan paste similar to Izalco Usulutan. Surfaces are covered with a well-burnished orange slip decorated with negative painted decoration in parallel lines (Fig. 2), blotches, circles, and irregular areas. The type's hallmark is the addition of a positive red painted circumferential rim band. Red painted linear, circular, blotchy, and animal motifs also appear on vessel walls. Forms are usually bowls: hemispherical and restricted orifice at Copan, sub-hemispherical in central Santa Barbara, hemispherical and sub-hemispherical in the Sula plain (Joyce 1983b:6).

Chilanga appears near the end of the Early Classic in central Santa Barbara and is common now at Copan (Chilanga Rojo-sobre-Usulutan; Viel 1983:517-518; Acbi). It is frequently found in Late Classic deposits in the Sula plain, and recent analyses of Sula pottery place it in the Early Classic as well (e.g., Joyce 1983b:6-7; Chilanga: La Lima and Cristobal varieties; Beaudry, personal communication 1986). Chilanga may be present in small amounts at Los Naranjos and is rarely reported from the Naco Valley (Urban 1986).

Chilanga, like Izalco, appears to have spawned a number of local imitations (Fig. 3), consisting of sub-hemispherical bowls manufactured of apparently local pastes, slipped orange, and decorated with positive red and negative painted designs (San Rafael Red-painted Usulutan, central Santa Barbara, and Regadillo Red-on-orange with Resist, Naco valley). They represent minor portions of their respective assemblages.

Chasnigua system. Chasnigua types are distinguished

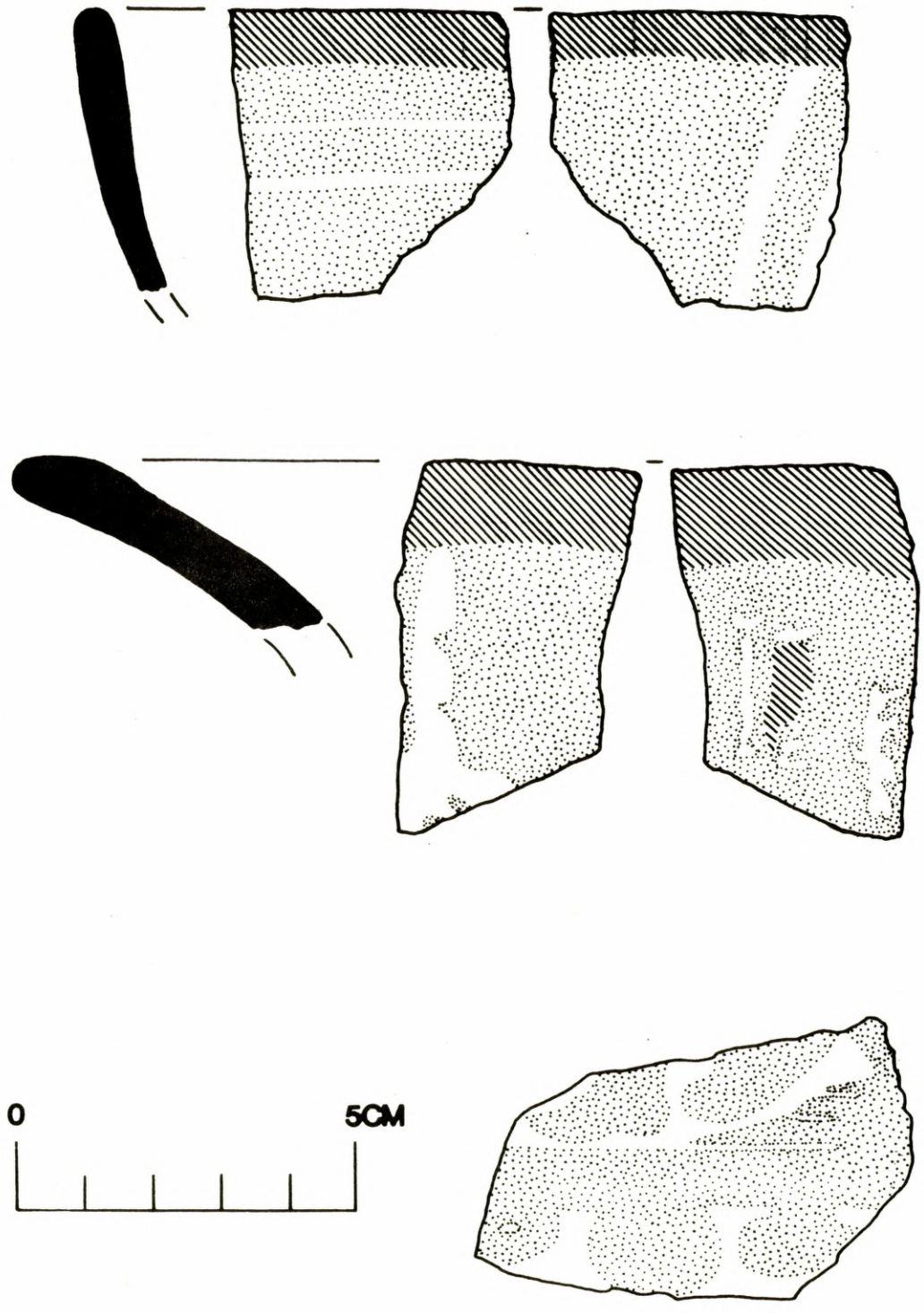

Fig. 2. Chilanga Usulutan examples.

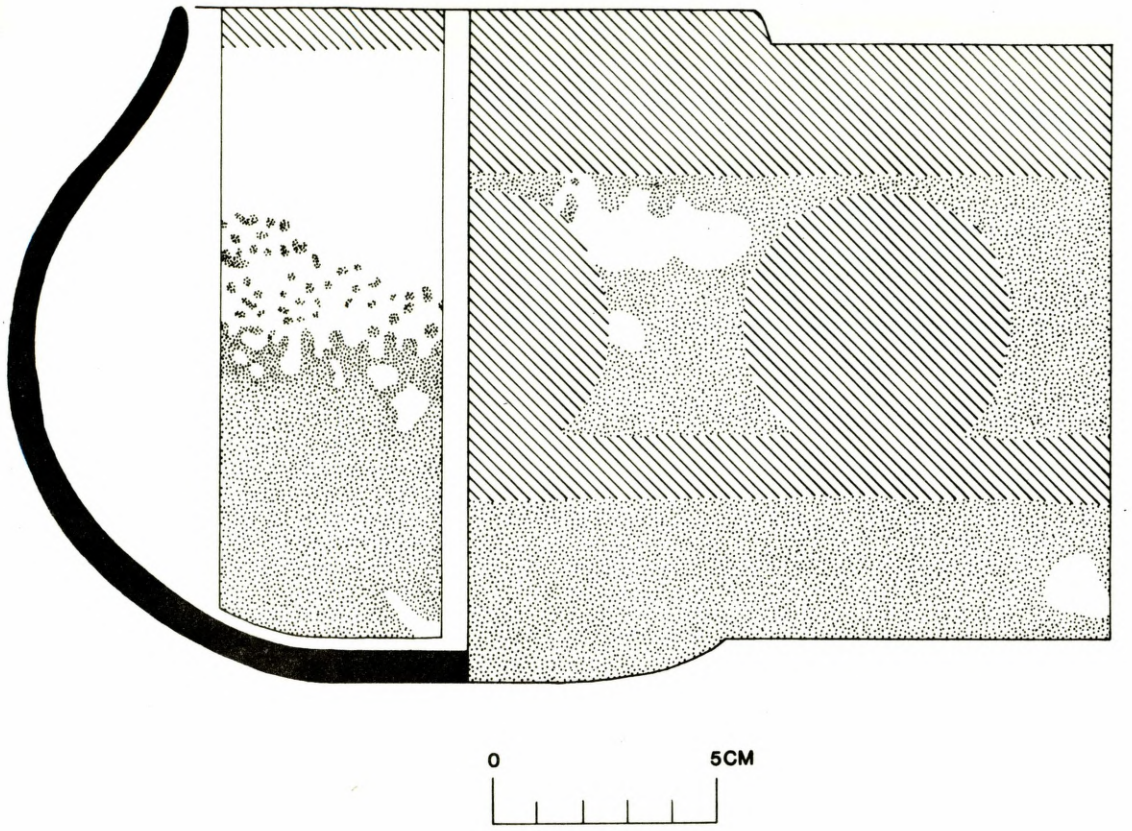

Fig. 3. San Rafael Red-Painted Usulutan: San Rafael variety.

by red painted designs on orange slipped surfaces without negative painted decoration. Forms are hemispherical, subhemispherical, and flaring wall bowls. Recent analyses of Copan ceramics did not reveal red-on-orange painted bichromes (Viel 1983), although Longyear´s earlier mention of Red-on-Orange Shallow and Simple Bowls in the latter part of the Early Classic (1952:96) suggests that they made up a very small part of Copan´s assemblage. Red--sometimes specular--decoration occurs on the interiors and exteriors of bowls in bands and in linear, blotchy, and naturalistic designs. Chasnigua Red-on-orange varieties occur in unknown frequencies in the Sula valley, and another Chasnigua system member, El Conejo Bichrome (previously Chamelecon Bichrome; Urban 1986), is present but rare in the adjoining Naco valley. Decoration is restricted to red painted rim bands and occasional linear designs on vessel walls in both Chasnigua and El Conejo.

Chinacla system. Orange slipped, unpainted vessels lacking Usulutan decoration have a restricted distribution. Longyear (1952:91, 95-96) reports an "orange wash" on Shallow Bowls and tripod cylinders within his Orange Ware

category were slipped orange but otherwise undecorated. Burdalu Rojo is a minor type of the Acbi phase that is composed of open bowls with everted rims and a polished orange slip (Viel 1983:511-513; cf. Cache Pots, Longacre 1952:92). None of these types were common. Aguagua Uneven Orange in central Santa Barbara is characterized by flaring walled and hemispherical bowls with lightly burnished orange-slipped surfaces. Necked jars are also recorded. Aguagua represents ca. 10% of the Early Classic assemblage. La Champa Orange: La Champa variety (formerly Chamelecon Orange: Chamelecon variety; Urban 1986) is the representative of this system within the Naco valley. Forms are almost exclusively sub-hemispherical bowls. La Champa Orange represents 15-20% of the Early Classic assemblage. Chinacla system types are not clearly reported in the Sula plain nor at Los Naranjos.

Jicatuyo Supersystem

Jicatuyo vessels are generally unslipped, necked jars decorated with red painted and/or incised linear and geometric designs on rims, necks, and/or shoulders. This category is comprised of four systems during the Early Classic: Magdalena, Chinda, Lupo, and Masica.

Magdalena system. Examples of this system are largely vertical necked jars with everted or flared rims. Decoration consists of complex, red painted geometric designs located on the neck, upper rim surface, and sometimes the globular body. Jars are generally equipped with two or four red painted handles. The clearest examples are from the Naco valley, where Magdalena Red-on-natural represents 15% of Early Classic assemblages (Fig. 4; Urban 1986). Los Naranjos representatives are two very minor types, Meambar Rouge-sur-beige and Urupa Rouge-sur-beige (ibid.:235-237).. A closely related type, Marimba Red-on-natural, is recovered from the Sula plain in unknown amounts (Joyce 1983a:4). No Magdalena system sherds were recovered from Colonia Care (Sheehy 1979).

At Copan, Prospero Rouge-sobre-beige (Viel 1983:508; Bijac) is found in jars with red painted vertical lines and geometric patterns on their exteriors. Frequencies are consistent if not high. La Isla Red-on-natural: La Isla variety is the consistent but minor central Santa Barbara example of the Magdalena system (Fig. 5). La Isla is found in bowls and jars decorated with fine, usually cross-hatched, red painted designs on vessel exteriors.

Chinda system. In this system, the designs are primarily simple linear patterns or blotches on unslipped, smoothed surfaces. Forms are more variable than with Magdalena examples. Recent analysis of Copan material has yielded no clear representatives of this system, although Longyear's Red-on-Brown Ware, Ring-Based Bowls and

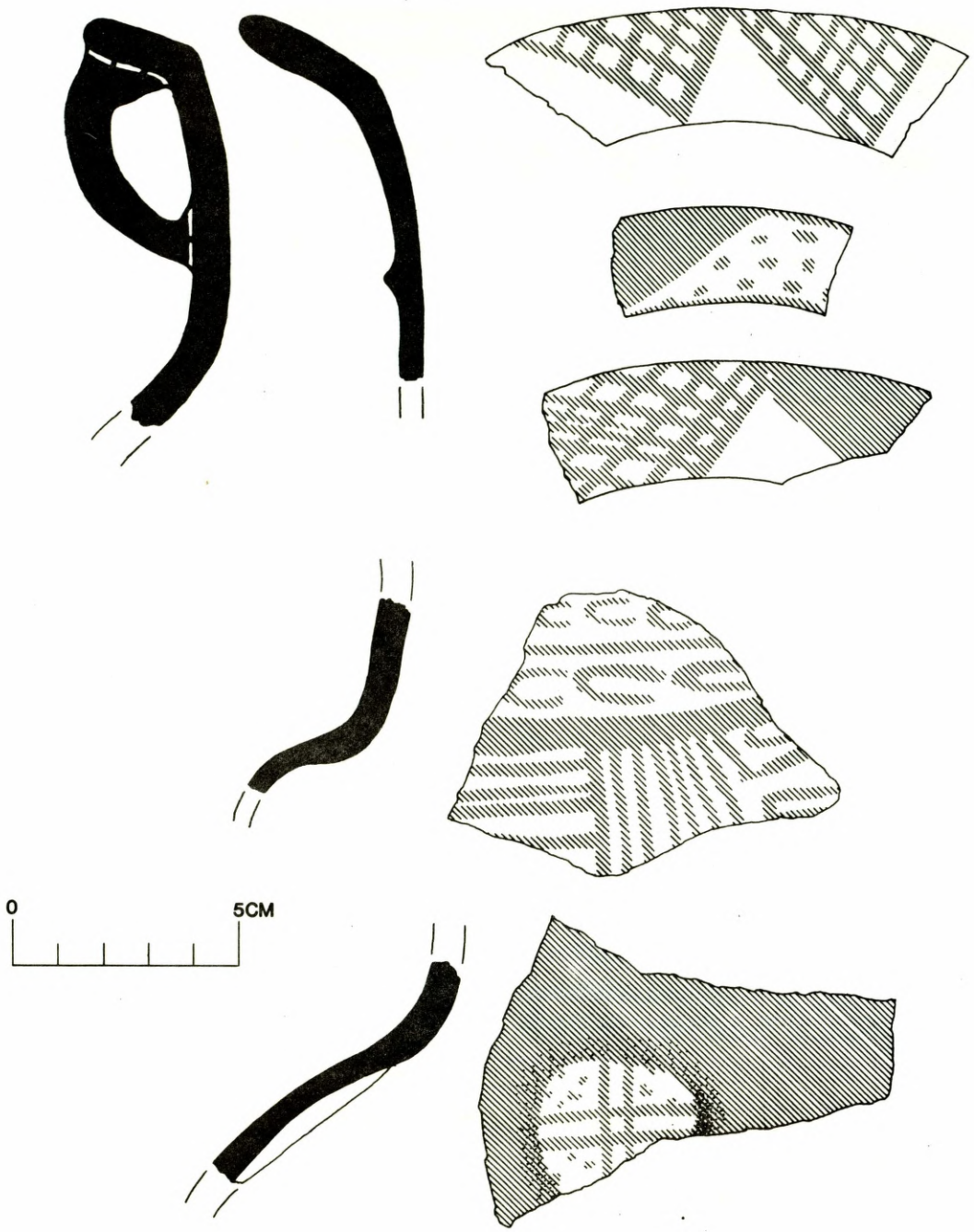

Fig. 4. Magdalena Red-on-Natural: Magdalena vareity.

Scalloped Basal Molding Bowls (1952:95) from the Early Classic, Second Part, may belong. Red paint is applied as a rim band and as parallel wavy lines--reminiscent of Izalco negative painted designs in form and placement (Longyear 1952:95)--on the interiors of open bowls. The frequency of these types is unknown, but they seem to have made up a moderate portion of the Early Classic assemblage.

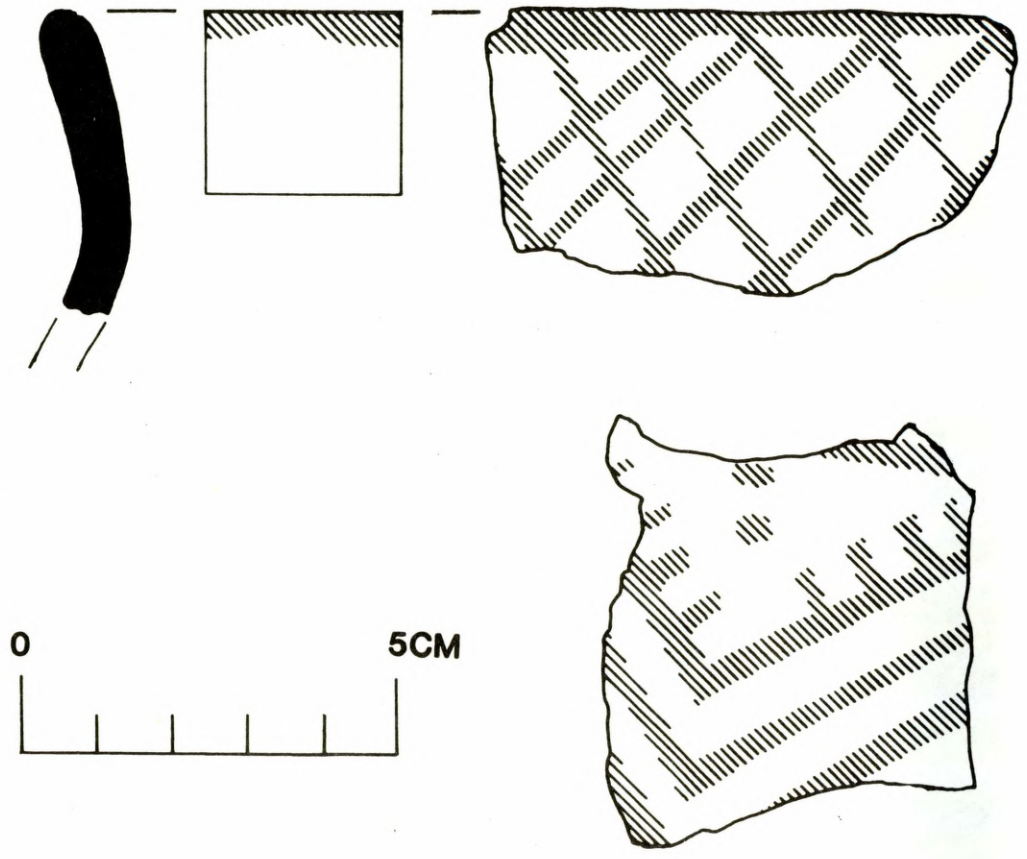

Fig. 5. La Isla Red-on-Natural: La Isla variety.

Taixiguat Blotchy Red: Taixiguat variety represents this system in central Santa Barbara (Fig. 6). Taixiguat containers support broad linear and "blotchy" decorations most commonly found on vessel exteriors. Forms are flaring wall and sub-hemispherical bowls and pyriform and restricted orifice jars. Taixiguat makes up ca. 11% of the Early Classic collection.

At Los Naranjos, the primary member of this system is Chinda Rouge-sur-natural (Baudez and Becquelin 1973:241-247), which, together with several other minor types, represent a consistent if minor proportion of Eden II collections (cf. Tucuche Rouge, Mongora Brun, Borboron Rouge, Tzumulin Rouge; ibid.:151-152, 164-169, 199-208, 209-212). Forms are primarily vertical or outflaring high necked jars with red rim bands and simple red painted linear and geometric designs on the neck. Jars with low vertical necks, restricted orifice vessels, and flaring wall and hemispherical bowls are also found. There are several Colonia Care examples (Carros Red-rimmed, Gomez Red-on-white, Nance Red-on-brown, Cubano Red-on-buff,

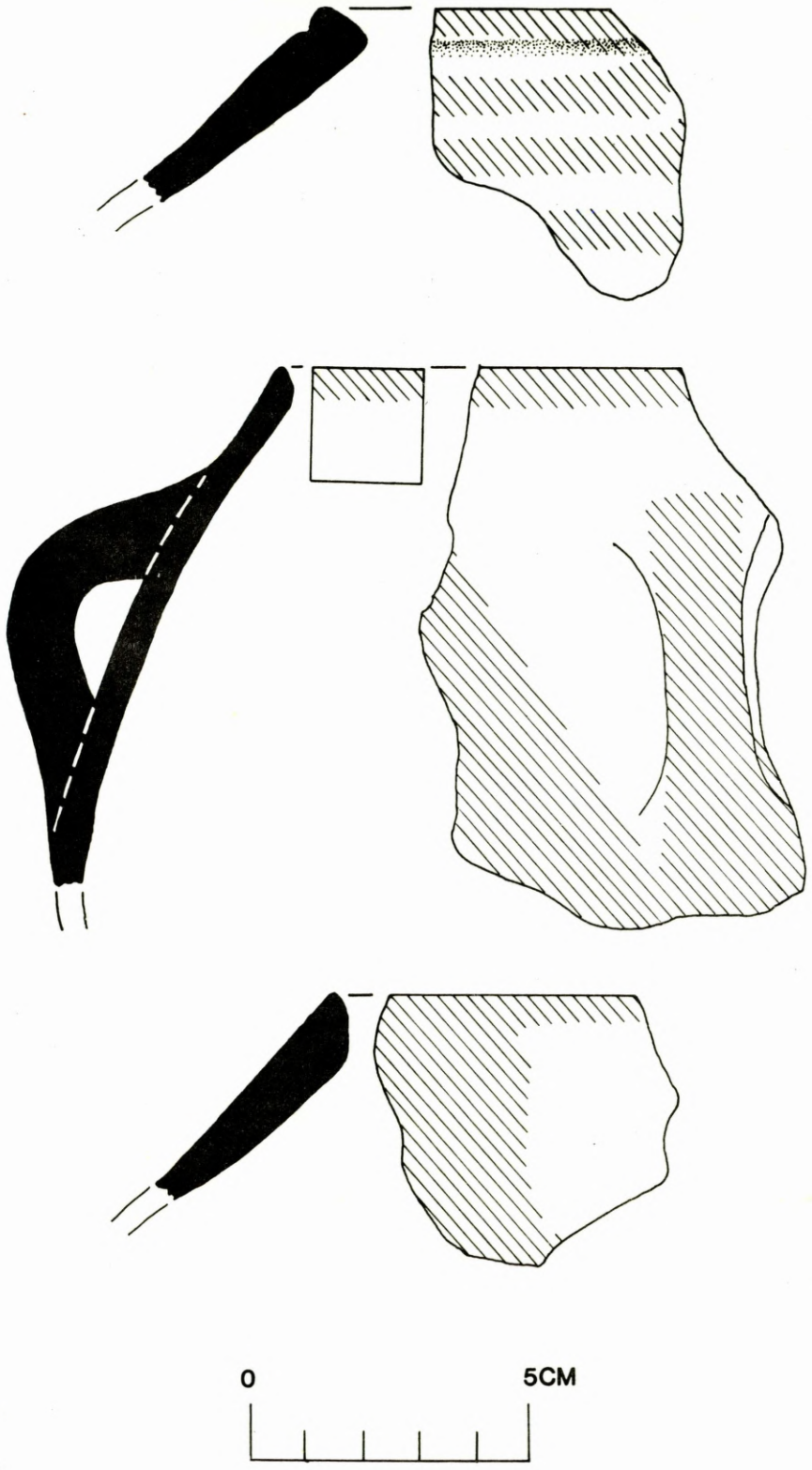

Fig. 6. Taixiguat Blotchy Red: Taixiguat variety.

Sheehy 1979:46, 53) that, taken together, represent ca. 9-10% of the Choloma III ceramics.

Lupo system. This system is characterized by unslipped necked jars and restricted orifice vessels decorated with red paint, primarily on the rim, and simple linear and geometric, commonly cross-hatched, designs made with a single pointed instrument and usually located on the neck or shoulder. A white wash is occasionally applied prior to the incision.

Copan's primary representative of this unit is Cementerio Inciso (Viel 1983:510; Bijac through Acbi); some examples of this type lack red, suggesting possible future divisions into separate taxa (Fash, personal communication 1986). Forms are short, flaring necked jars and restricted orifice vessels with a pre-incision white wash. Cementerio represents a moderate proportion of Early Classic ceramics. Cocorico Rojo-sobre-aranjado (Viel 1983:513; Acbi), consisting of concave-necked jars lacking a white wash on the incised portion of the neck, represents a small but regular part of the Copan Early Classic collections (cf. Coarse Ware Type B Storage Jars and Everted Rim Jars; Longyear 1952: Fig. 31a-g).

The Naco and Sula valleys and central Santa Barbara produce nearly identical versions of the Lupo system, called Fronton Unslipped (Fig. 7). No white wash is applied to the incised jar necks and the use of red is inconsistent. Fronton originates in all three areas in the preceding Late Preclassic era and represents ca. 3-5% of Naco and central Santa Barbara Early Classic collections (Urban 1986). A closely related type, Cececapa Incised-with-red: Cutuquito variety (Fig. 8) features incised decoration over white wash on the upper shoulder of restricted orifice jars and on the necks of necked jars. Cececapa represents slightly more than 4% of the Early Classic assemblage.

Varieties of Lupo Incised in the Sula plain are found on open vessels, with red painted zones alternating with unpainted incised areas. At Los Naranjos several taxa may contain representatives of this system, but apparently the Lupo system is less important here than in contemporary assemblages to the west.

Masica system. Appearing late in very small proportions in the Early Classic at Copan, Los Naranjos, the Sula plain, and central Santa Barbara, the Masica system consists of jars decorated on the neck or shoulders with fine, curvilinear, and complex geometric incised designs made with a multiple-toothed instrument. Red paint is applied to the rim, shoulder, and upper body, as well as to the two or four vertical tubular handles that may appear on some vessels. This system is represented at Copan by

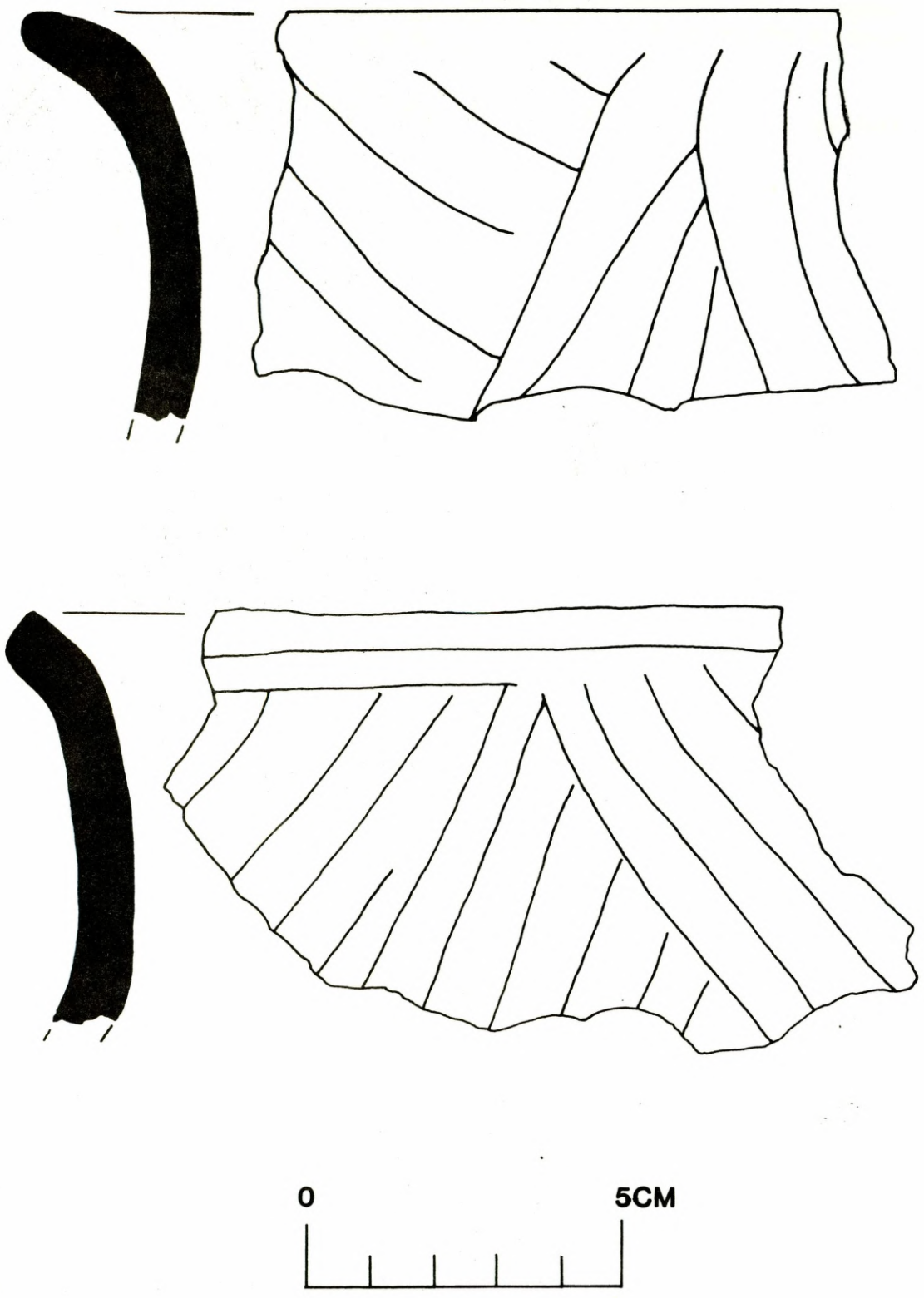

Fig. 7. Fronton Unslipped.

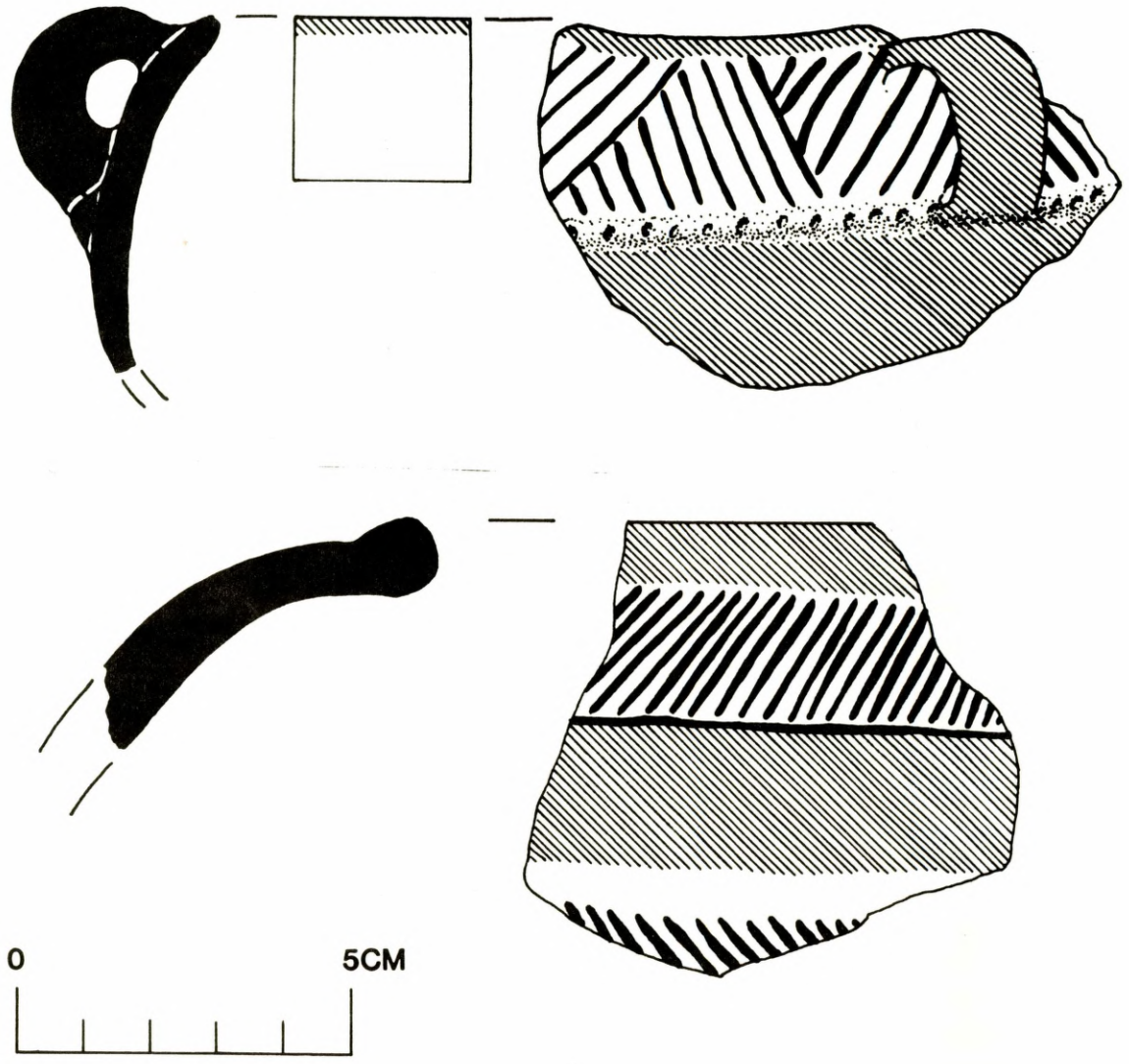

Fig. 8. Cececapa Incised-with-Red: Cutuquito variety.

Reina Inciso (Fig. 9; cf. Viel 1983:522; Acbi), and at central Santa Barbara by Masica Incised: Dranzal variety. Associated forms are high, slightly flaring necked and pyriform jars, respectively. At Los Naranjos, Masica Incise (Baudez and Becquelin 1973:296-299) is characterized by crude, simple incised designs, which led members of the 1986 Honduran Ceramics conference to recommend placing this type in its own system (Rana). Sheehy (1979:56) places some Masica Incise sherds in his Choloma III phase. Marimba Red-on-natural: Matopolo variety from the Sula plain appears to fall into this system. No Masica system types were recorded from the Early Classic Naco valley.

Loma Larga system. Vessels in this system have

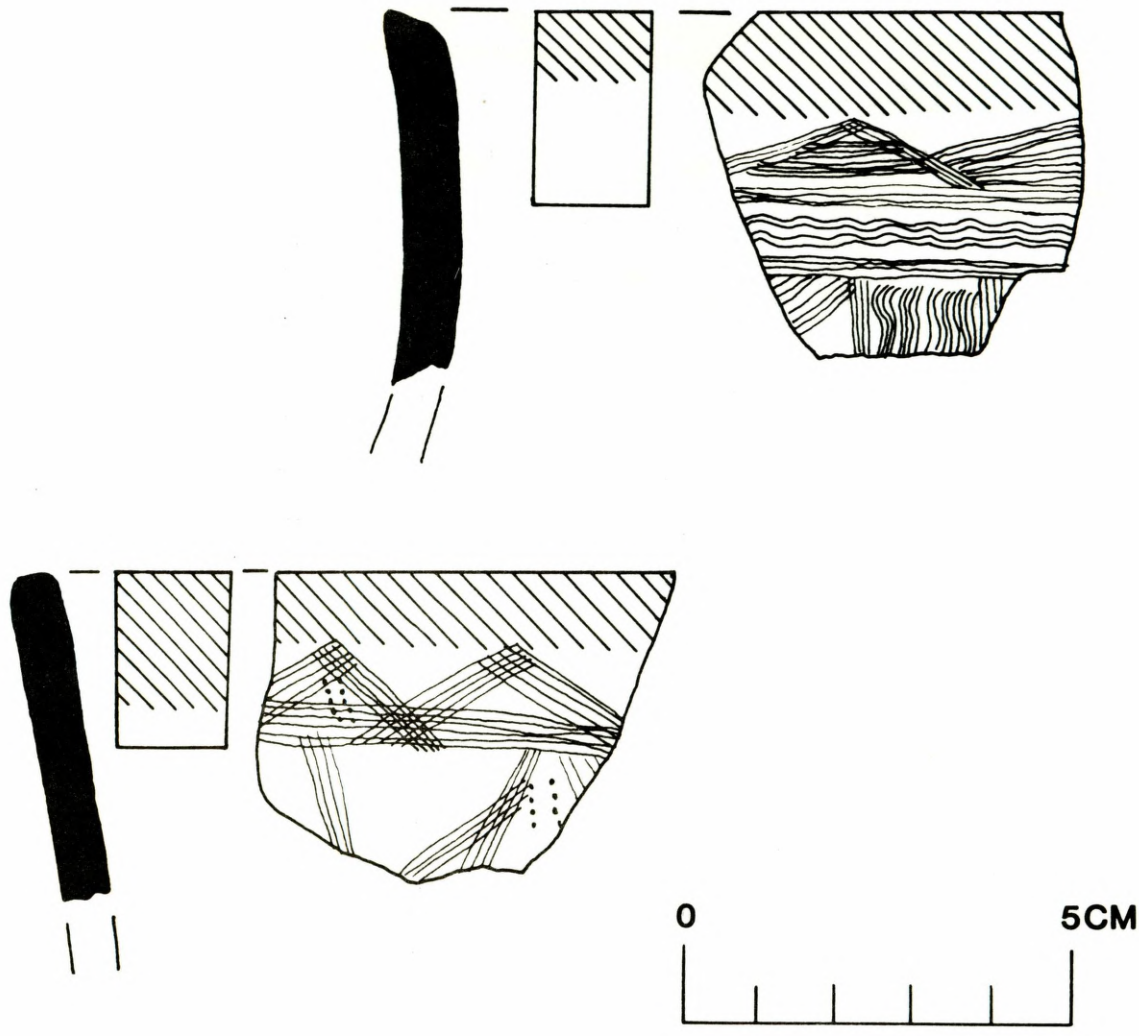

Fig. 9. Reina Inciso (example drawn from collections of the Santa Barbara Archaeological Project).

primarily tan slips and red painted complex designs. Copan examples include Chitam Rojo-sobre-beige (Viel 1983:510; Bijac and Acbi), Povmec Rojo-sobre-aranjado (Viel 1983:516-517; Acbi), and Favela Rojo-sobre-beige (Viel 1983:511; Acbi). Designs include parallel lines, geometric figures, rare naturalistic motifs, especially monkey silhouettes (Povmec), and "blotchy" red patterns. Forms are sub-hemispherical and hemispherical bowls with or without hollow supports; some restricted orifice vessels and jars are also recorded. These types represent a consistent minority of the Early Classic assemblage.

The principal central Santa Barbara example is Jululo White-slipped (Fig. 10), consisting of jars and open bowls slipped tan to white and decorated with complex geometric

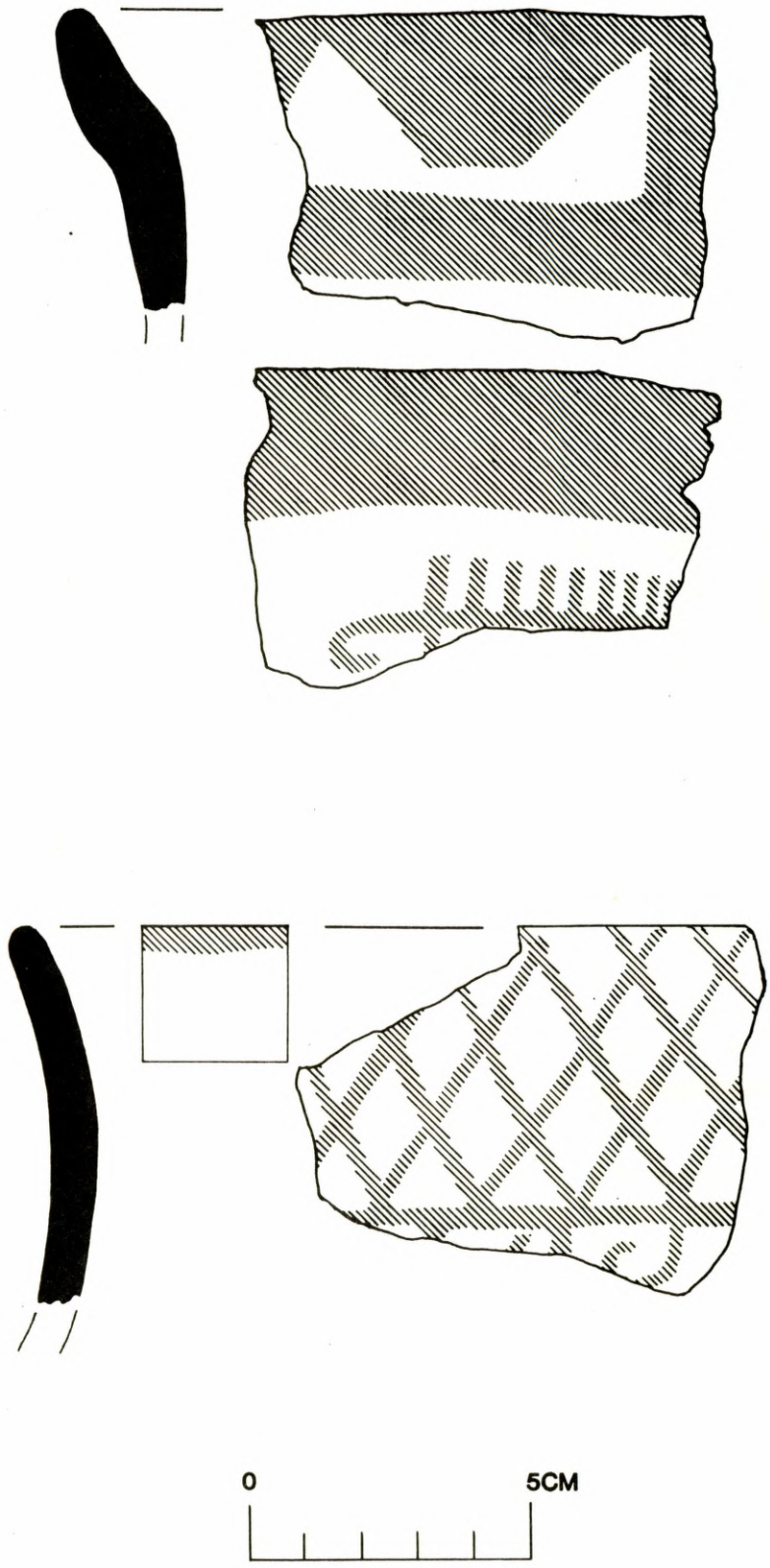

Fig. 10. Jululo White-Slipped.

designs in red. Jululo represents ca. 8% of the Early Classic assemblage. Additionally, Loma Larga Red-on-orange: Loma Larga variety (Fig. 11), has complexly structured but poorly understood red painted designs, is associated with jars and falring wall bowls, and represents less than 1% of the relevant central Santa Barbara collections. This system is not clearly identified within the other investigated areas.

Cancique system. Cancique Polychrome, originally defined at Los Naranjos (Baudez and Becquelin 1973:288-290), is a bichrome type consisting of orange-slipped hemispherical bowls decorated with curvilinear designs in purplish red frequently outlined with lines of small dots (Fig. 12). One complete Cancique vessel had a scraped slip design of nested horseshoe-like elements at and below the body break. Cancique bichromes appear in small amounts late in the Early Classic of Los Naranjos (sometimes with white paint added), central Santa Barbara, and the Sula plain. Tirantes Trichrome: Tirantes variety from central Santa Barbara (Fig. 13) is a minor type in this system. High, out-curving necked jars, flaring wall and sub-hemispherical bowls, and restricted orifice vessels have decoration following the general Cancique canons, with the addition of small amounts of white to the predominant use of purplish red.

Polychrome Supersystem

Polychrome decorated ceramics first appear in the study area in the Early Classic. They make up a very small segment of pottery collections, but are highly diverse, and thus there are probably systems within this supersystem that cannot be defined at present, owing to the fragmentary nature of the remains.

Copan Early Classic polychromes are grupo Dos Arroyos (Viel 1983:509; Bijac and Acbi) and Caldero Buff: Sarita variety (ibid.:509-510; Acbi). These divisions undoubtedly correspond to Longyear's distinctions within his Polychrome Ware: Basal Flange Bowls Types A and B (1952:98-99). Forms are flaring wall bowls with pronounced basal flanges and occasional ring bases. Surfaces are slipped orange and exteriors are painted in geometric and other undefined designs in red and black. A closely related type is Cisne Trichrome from Choloma III deposits at Colonia Care (Sheehy 1979:55), which includes orange-slipped basal flange vessels decorated with red and black painted designs. Polychromes from late in the Sula Early Classic beyond Colonia Care presage the development of Ulua-Yojoa painted wares (see below).

Central Santa Barbara examples are slipped orange with red and black painted decorations, primarily on vessel exteriors. Remains of these containers have been too

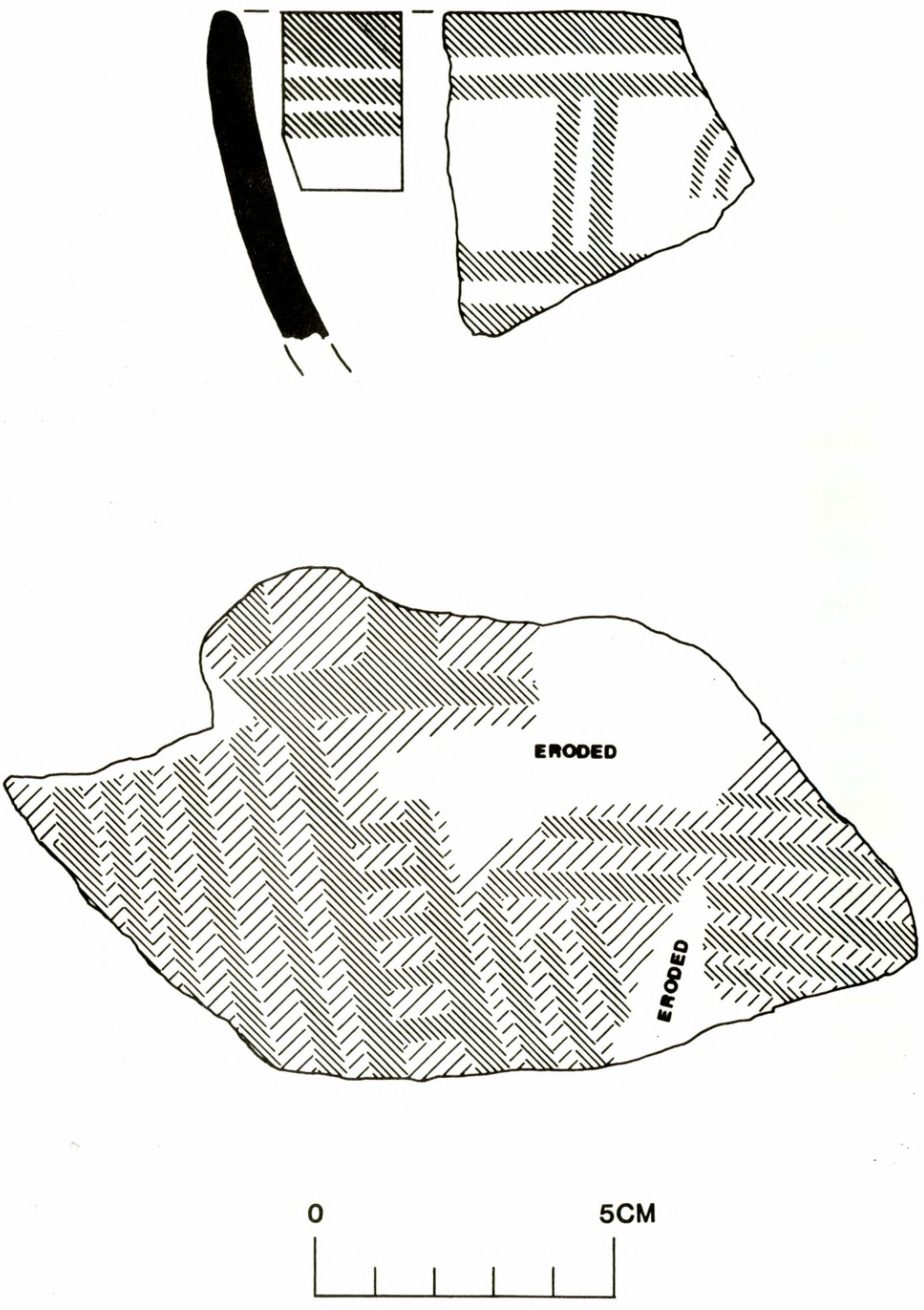

Fig. 11. Loma Larga Red-on-Orange: Loma Larga variety.

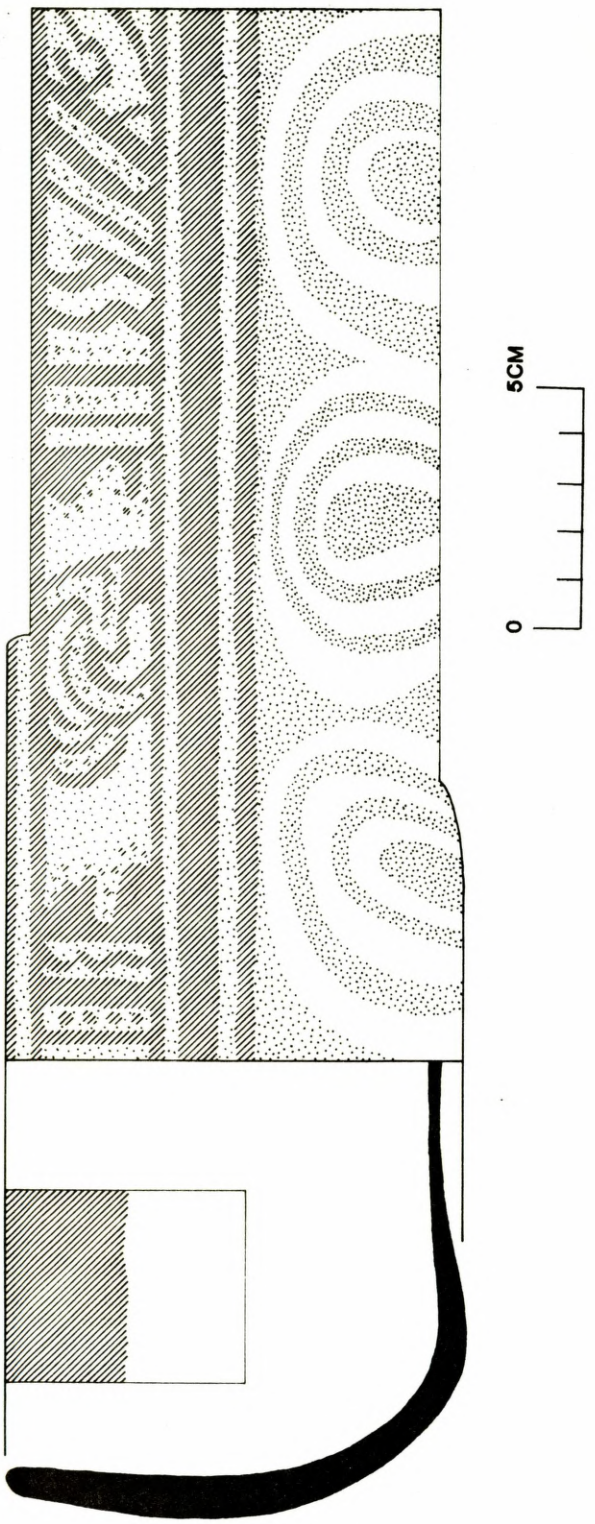

Fig. 12. Cancique Bichrome: variety unspecified.

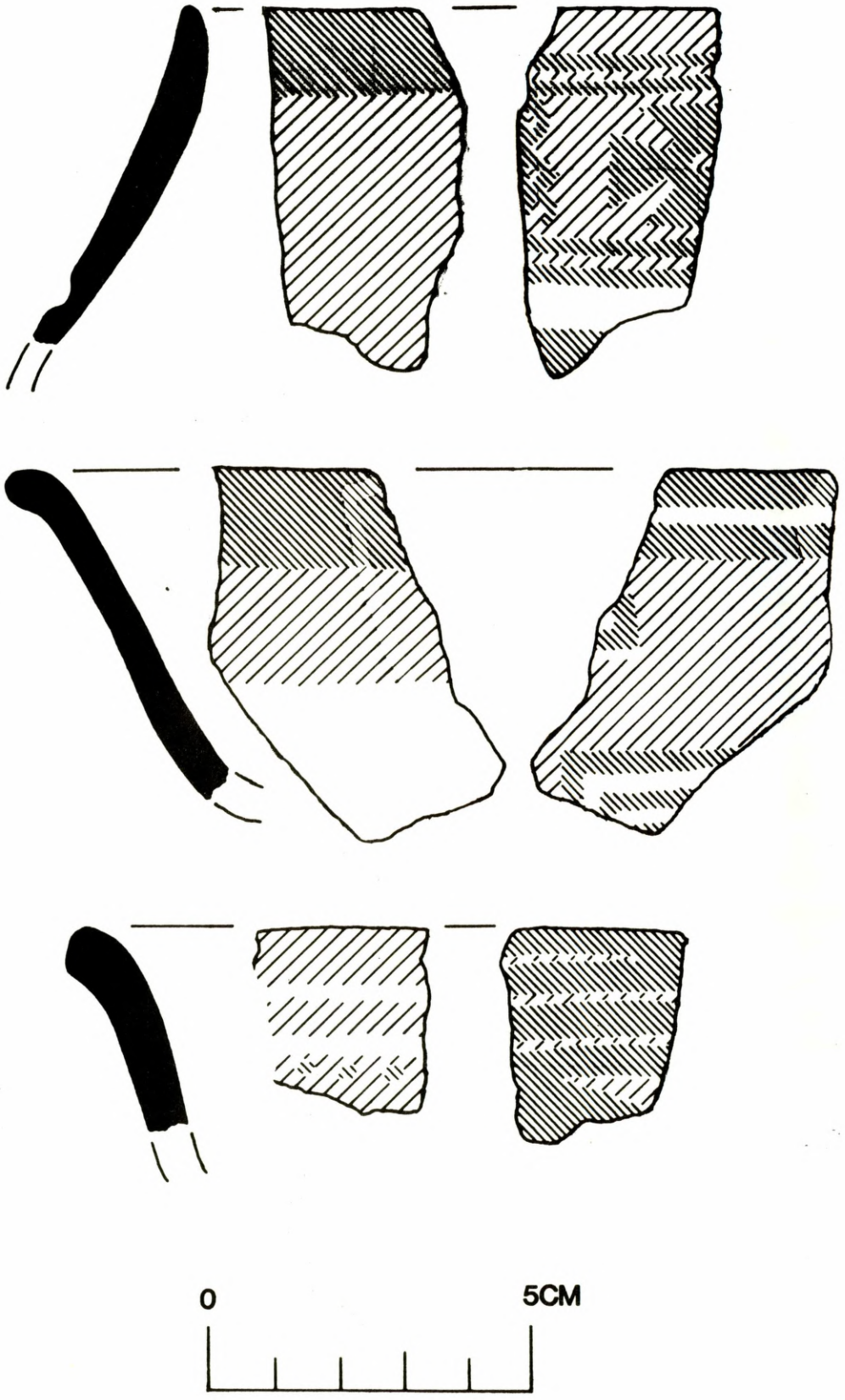

Fig. 13. Tirantes Tichrome: Tirantes variety.

fragmentary to allow design reconstructions. Polychromes seem to appear relatively late in the central Santa Barbara Early Classic sequence. At neighboring Los Naranjos, Chichipate Polychrome appears near the end of Eden II (Baudez and Becquelin 1973:248-255). Painted designs in red and black, located on the necks and shoulders of jars and the exteriors of cylinders and flaring wall bowls, consist of geometric and linear friezes, and panels containing animal figures including birds, jaguars, and serpents. Naco valley Early Classic polychromes are few (Urban 1986), though red and black painted designs, often birds, occur in panels between horizontal bands on the interiors of orange slipped sub-hemispherical bowls. These vessels are currently classed as Chamelecon Polychrome.

Although the sample is too limited to define inter-regional patterns, polychromes seem to appear earlier at Copan than elsewhere, except possibly Colonia Care, and the use of basal flanges is, so far, limited to Copan and Colonia Care. Polychrome basal flange bowls in contemporary lowland Maya Tzakol assemblages provide the clearest analogues for the Honduran examples. Similarities suggest ties uniting the residents of Copan and at least portions of the Sula plain on the one hand with lowland Maya to the west on the other. Such ties may have been diverse and Copan and Colonia Care peoples may have received their polychrome vessels or inspirations along different routes from distinct sources.

Unslipped Vessels

The majority of the pottery in all Early Classic assemblages are unslipped utilitarian bowls and jars with no distinctive decorations. This material is divided into two systems, Hijol and Iotampoco, based on vessel surface finish.

Hijol system. Vessels in this system come in a wide range of forms and are distinguished by their polished surfaces. At Copan, commonly occurring types include Hijol Cafe (Viel 1983:508; Bijac through Acbi, though most common in Bijac) and Hastalgorro Pulido (Viel 1983:510-511; Bijac through Acbi). Hijol forms are high, flaring neck jars with zoned polish, the upper exterior vessel wall being left rough while the lower segment is well-burnished, and appliqued fillets may separate the zones. Hastalgorro is burnished overall and occurs in low, flaring neck jars, comales, and restricted orifice vessels (cf. Coarse Ware and Burnished Ware, Large Bowls; Longyear 1952:89-90, 93-95).

Representatives of this system in central Santa Barbara are Guayabita Burnished Black-brown and Guitin Unslipped. Guayabita, diminishing from a Late Preclassic high to less than 1% of the Early Classic collection,

usually occurs as sub-hemispherical and flaring wall bowl forms with highly polished interior and exterior surfaces. Guitin, representing approximately 8% of the Early Classic assemblage, has highly burnished surfaces, and is found on similar bowl forms, as well as in plates or comales, vertical to outcurving necked jars, and restricted orifice vessels with or without everted rims.

Hastalgorro and Guitin are similar in their forms and surface treatment. Especially telling is the presence of comales in both taxa, a form that has rarely been reported elsewhere in the study area. Hijol system vessels are not reported as a separate group at Los Naranjos, Colonia Care, nor in the Naco valley. Burnished flaring wall bowls and flaring neck jars are recorded in early Travesia levels (Joyce 1983a:4) and at other Sula valley sites (Tulian Burnished, M. Beaudry, personal communication 1986), though their frequency seems low. It is not clear whether this distribution of Hijol types simply represents different methods of classifying unslipped vessels or a real dearth of burnished examples outside Copan, central Santa Barbara, and the Sula plain.

Iotampoco system. Although unburnished, unslipped vessels are widely reported from the study area, the tendency to lump sherds of these containers into large, undifferentiated categories obscures any interregional patterns that might have existed. Representatives of this system include: Copan--Iotampoco Burdo (Viel 1983:511; Bijac and Acbi; cf. Coarse Ware, Longyear 1952:89-90); central Santa Barbara--Ceguaca Coarse Paste and Macuelizo Plain; Los Naranjos--Jaitique Grossier (Baudez and Becquelin 1973:123-130) and Mongora Brun (ibid.:164-169); Colonia Care--Caritas Brown, Chacon Appliqued, and Fifi White (Sheehy 1979:47-49); Naco valley--Jicaro Unslipped (Urban 1986). Forms are generally necked jars, restricted orifice vessels, and open bowls. Decorative embellishments are largely restricted to appliqued fillets placed around the base of jar necks (Los Naranjos and possibly Copan and Colonia Care). The only obvious distributional pattern is Copan's apparent monopoly of comales with horizontal tube handles.

Special Ceramics

Though they do not fall into the above ceramic systems, and represent only a minor proportion of Early Classic assemblages, several Early Classic types do bear on the question of Copan's interactions with other regions. These suggest that Copan had an unusual diversity of very minor vessels, either imported or foreign-inspired.

Slab-footed tripod cylinders, sometimes with lids, similar to "Teotihuacan style" containers from the contemporary Maya lowlands, are found at Copan in the

Louisiana Inciso and Usurpar Exciso e Inciso types (Viel 1983:515-516; Acbi; cf. Longyear 1952:97-98). Further, the black slipped, well-burnished monochrome, Melano Negro (Viel 1983:515; Acbi; cf. Black Ware, Simple Bowls, Longyear 1952:97) and the channel-decorated Suri Acanalado and Mapache Acanalado (Viel 1983:513, 516; Acbi) types show close similarities with contemporary ceramics from the middle Motagua drainage in eastern Guatemala (ibid. 513-516). These data, together with the basal flange polychromes noted earlier from Copan, indicate that Copan's residents maintained ties with the Maya lowlands and adjoining uplands. It is also of interest to note that these types represent the total corpus of "Maya" ceramics at Early Classic Copan.

None of the other "special ceramics" reported from elsewhere in the study zone show such clear parallels with non-local taxa. There are, however, a number of red slipped and white slipped types that, because of their diversity and poorly understood nature, continue to resist integration within systems. The white slipped taxa represent small proportions of Early Classic deposits at Los Naranjos and Colonia Care. Red slipped types are more prevalent, being found in both open bowl and jar forms at Copan, Los Naranjos, Colonia Care, and in various other sites within the Sula plain. Despite the number of individual types so far defined, they do not seem to represent more than a minor part of their respective Early Classic assemblages. As work continues on this material we anticipate the definition of several systems within the red slipped type class.

LATE CLASSIC (AD 600-900)

The early subdivision of Healy's Period V, the Late Classic, is the best known of all time periods of Honduran prehistory.

Papalaja Supersystem

Sumpul and Bolo systems. Negative-painted, single- or double-slipped ceramics continue into the Late Classic in most of the areas studied. Their numbers progressively decrease throughout the period, however, and they represent only a small proportion of ceramic assemblages. The exception to this trend seems to be at Los Naranjos where Muerdalo and Bolo together make up ca. 4% of the Yojoa assemblage (Baudez and Becquelin 1973).

Choloma Supersystem

Chilanga system. Red painted Usulutan types are fairly common in the late portion of the Early Classic and continue into the early segment of the Late Classic in

several regions. At Copan, Chilanga Rojo-sobre-Usulutan peaks in popularity during the first years of the Late Classic, declining rapidly thereafter (Viel 1983:517-518; late Acbi, early Coner; Longyear 1952:96-97). A new type appears within this system at Copan early in the Late Classic, Arturo Inciso (Viel 1983:518; end of Acbi through Coner). Arturo is less common than Chilanga and consists of restricted orifice vessels decorated in the Chilanga style with the addition of fine-line incisions frequently associated with a modeled face. Like Chilanga, Arturo declines markedly in frequency throughout the later portion of the Coner phase.

The same pattern of a peak and then decline in red painted Usulutan occurs in central Santa Barbara. Arturo is also found in the northern section of this region in early Late Classic deposits, although in such small amounts that these vessels may have been imported. At Los Naranjos, Vijagual Trichrome (Baudez and Becquelin 1973:285-287), essentially identical to Chilanga at Copan and in central Santa Barbara, represents a very small proportion of the Yojoa assemblage and dwindles in significance toward the end of that phase. Chilanga-like material is recorded in small amounts in the Comayagua valley in Lo de Vaca III levels (Baudez 1966:311), as well as in the Naco valley (Urban 1986). The situation in the Sula plain is less clear. Chilanga system ceramics are present in Late Classic excavation levels at Travesia (Joyce 1983a:6) and Cerro Palenque (Joyce 1984:10), but do not continue in significant amounts into the latter part of the Late Classic (ibid.). Personal examination of some of the material and conversations suggest that red painted Usulutan vessels were very common in at least the early portion of the Late Classic (J. Henderson, T. Murray, and M. Beaudry, personal communication 1986). The local variants of Chilanga in the Naco valley (Regadillo) and central Santa Barbara (San Rafael) follow the same general frequency trends, though they remain much less numerous.

Chasnigua system. At Copan, Longyear's (1952:30, 96-97) Red-on-Orange Ware, Shallow and Simple Bowls, and Thick Walled, Footed Bowls fit in this system, and are apparently fairly common. These orange slipped open bowls are decorated with bands, loops, splotches, and occasionally naturalistic figures painted in red, sometimes specular red. In central Santa Barbara, open bowls in two varieties of Calix Red-orange represent the Chasnigua system: Naranja Pintada variety has red painted designs and Black-banded variety is decorated with two parallel black bands on the interior. Both varieties are rare, occurring exclusively in southern Santa Barbara assemblages.

Chasnigua Red-on-orange: Filopo variety has been recovered by the recent work of the Sula Valley Archaeological Project and clearly fits in the system.

This minor type consists of orange slipped sub-hemispherical bowls decorated with a red or black band at the rim (J. Henderson and M. Beaudry, personal communication, 1986). The same situation holds in the Naco valley where a minor type, El Conejo Bichrome, is nearly identical in form, surface treatment, and decoration. No Chasnigua system types are reported from Late Classic deposits in the Comayagua valley nor at Los Naranjos.

Chinacla system. Orange slipped sub-hemispherical bowls constitute a large proportion of the Naco (La Champa Orange: La Champa variety) and Sula plain (Chasnigua Orange) Late Classic collections. La Champa and Chasnigua are nearly identical in form and surface treatment. At Copan, Surlo Aranjado-cafe (Viel 1983:523; end of Acbi through Coner) flaring wall and hemispherical bowls are moderately common (cf. Orange Ware Simple Bowls and Coarse Ware Shallow Bowls, Longyear 1952:96). Central Santa Barbara's representative of this subsystem, Calix Red-orange, occurs in moderately high quantities at the southern sites of El Nispero and La Mariposa and consists of sub-hemispherical bowls. In the Tencoa and Gualjoquito valleys to the north, orange slipped monochromes are represented by small quantities of Jabuas Orange-slipped: Jabuas variety open bowls. Elsewhere, at Los Naranjos, Chinacla system types are not reported from clear Late Classic contexts, and in Comayagua orange slipped vessels are reported but their dating is unclear (Stone 1957:37-38).

Jicatuyo Supersystem

Magdalena system. Similar types in the Magdalena system link the Naco (Magdalena Red-on-natural) and Sula (Marimba Red-on-natural: Mariscal variety) regions in the Late Classic (Joyce 1983a:4-6; Strong, Kidder, and Paul 1938:40, 49, 66-68; Urban 1986). These types grow in importance from their Early Classic beginnings, with little change in forms, surface treatment, or decoration. Meambar Rouge-sur-beige and Urupa Rouge-sur-beige from Los Naranjos also represent this system (Baudez and Becquelin 1973:235-240) and are probably imports, as indicated by their small numbers.

Chinda system. Chinda Rouge-sur-natural represents a moderately large proportion of the Yojoa phase ceramics at Los Naranjos (Baudez and Becquelin 1973:241:247), and is also found in small quantities in the Sula plain in the early portion of the Late Classic (E. Robinson, personal communication 1986). In the Comayagua valley, a common red-on-"natural" category of pottery with crude red lines on unslipped rims occurs as jars, "cups," and "effigy vessels (Stone 1957:35-36). Unfortunately the temporal position of this taxon remains uncertain.

Copan has few examples of this system in the Late Classic (Viel 1983), though Longyear's Coarse Ware Storage Jars, Type B may contain some representatives of this group (1952:89-90). This type consists of jars whose high, gently outcurving necks are decorated on the interior with red or orange paint. Simple linear painted designs are occasionally found on the upper body. Red painted examples in central Santa Barbara are varied in form and decoration, the principal representative being Santa Rosita Red-on-natural: Santa Rosita variety, which consists of unslipped sub-hemispherical bowls with burnished surfaces. Broad red painted linear and blotchy designs (Fig. 14) at the rim and on the exterior suggest an attempt to imitate Chilanga Usulutan. Santa Rosita represents a moderately large proportion of the Tencoa and Gualjoquito valley assemblages; it is not present farther to the south, where Calix Red-orange may have been its functional equivalent. In northern Santa Barbara, Tizate Orange-washed pyriform jars are relatively minor occurrences. Copan and central Santa Barbara contain Chinda types that show no close parallels to other members of the system.

Lupo system. Cementerio Inciso at Copan continues to be found in the Late Classic Coner phase (Viel 1983:510), in unknown frequencies, but Lupo system types virtually disappear from Late Classic collections in all other regions of the study area.

Masica system. This ceramic system is well-represented at Copan by Reina Inciso (Viel 1983:522; Acbi through Coner, primarily Coner) and Cruz Inciso (Viel 1983:525; Coner), which are similar in form and decoration. A new mode is an appliqued zoomorphic face on the vessel body which is surrounded by incised lines. Reina and Cruz constitute a moderately high proportion of the Copan Late Classic assemblage (cf. Coarse Ware Storage Jars, Types B and C, Longyear 1952:89-90).

Masica Incised: Gualjoquito variety from central Santa Barbara is similar to Reina and Cruz and little changed from the Early Classic Dranzal variety (Figs. 15-16). Later in the Late Classic era three new varieties appear, Nispero (in the south) and Zaragosa and Malin (Tencoa and Gualjoquito valleys; Figs. 16-18), characterized by a dark red paint and crude incised and red painted designs. Forms are generally pyriform jars though gently outcurving neck jars also characterize Nispero variety. As at Copan, zoomorphic faces surrounded by incised lines are frequently found on vessel bodies from northern central Santa Barbara. Varieties of Masica make up a consistently high proportion of the Santa Barbara collections.

A number of related minor types and varieties occur in the Tencoa and Gualjoquito valleys. Maroncho Red-and-incised: Maroncho variety jars with everted rims (Fig. 19)

Fig. 14. Santa Rosita Red-on-Natural: Santa Rosita variety.

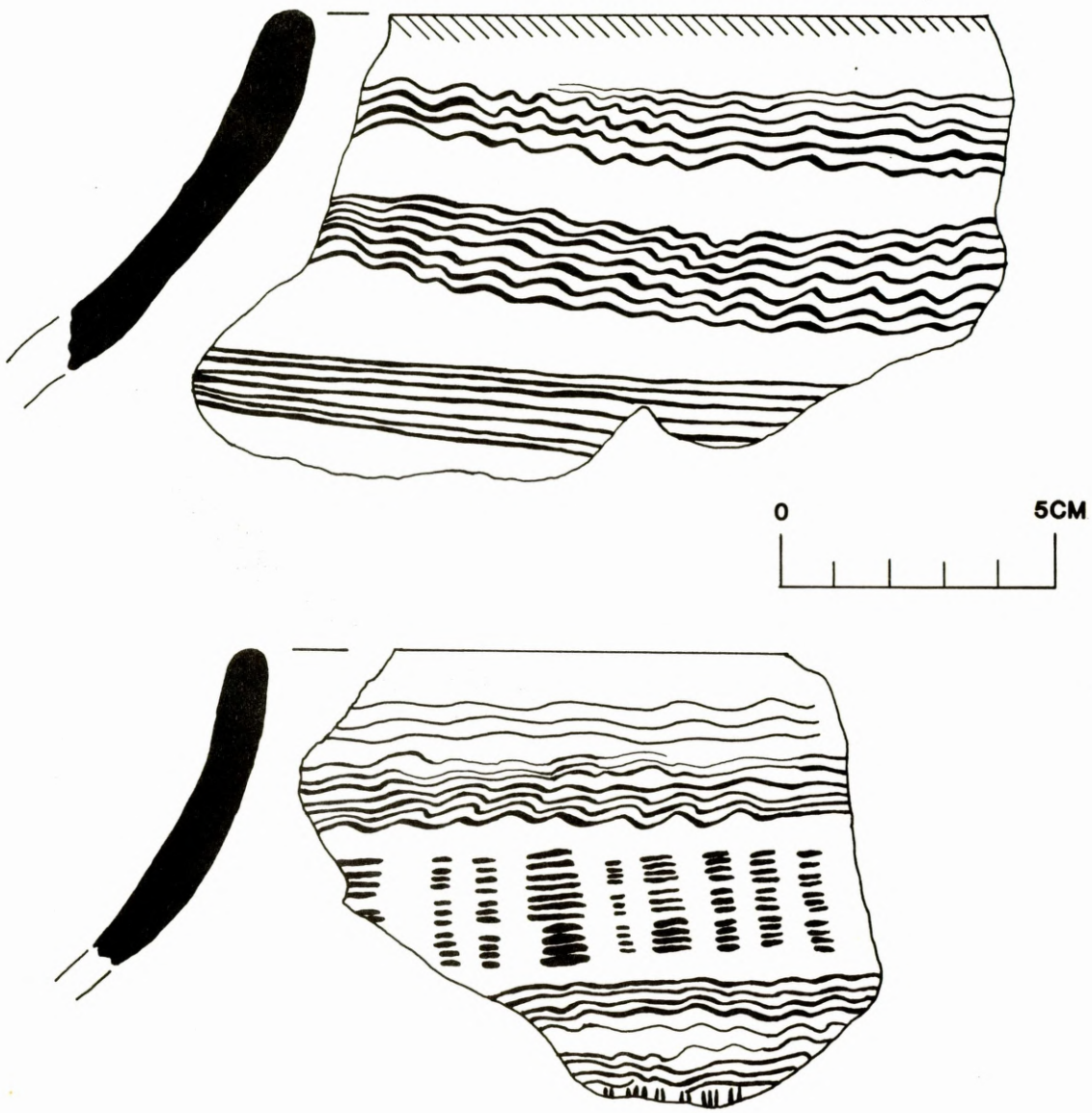

Fig. 15. Masica Incised: Gualjoquito variety.

have vertical necks decorated in alternating panels of fine-lined incision and solid red painted blocks. Tamaguapa White-painted: Tamaguapa variety and Masica Incised: Tierra Blanca variety (Fig. 19) consist of necked jars with a white wash or slip applied over the neck prior to decoration with fine, multiple-line incised curvilinear and geometric designs. Red paint is found on jar rims and in as yet unreconstructed designs on the body.

The numerical importance of Masica system types and their considerable variety in central Santa Barbara suggest that this area was a center of production and development of these vessels. The drop in the significance of Masica

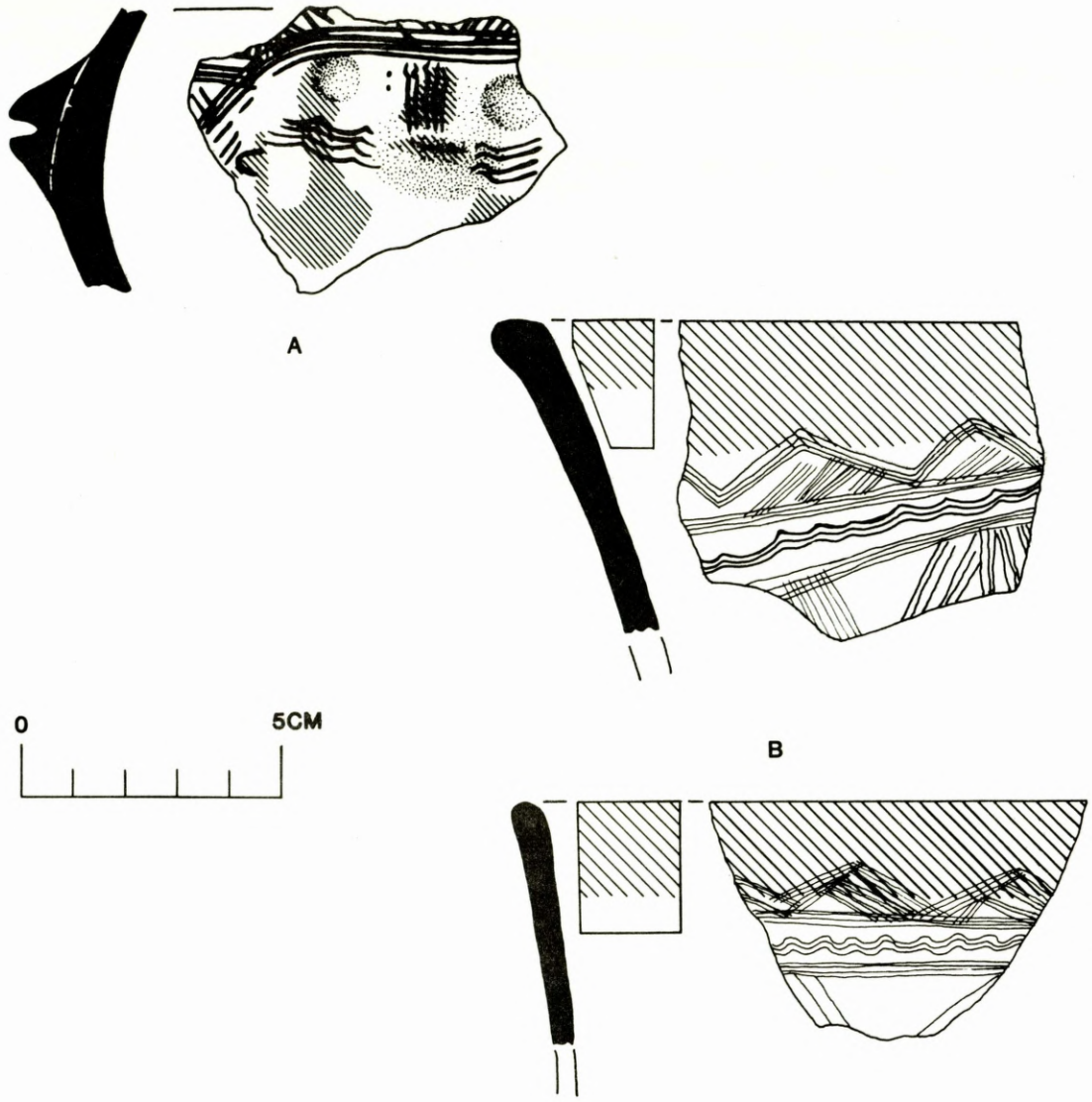

Fig. 16. a, Masica Incised: Gualjoquito variety. b, Masica Incised: Nispero variety.

system pottery to the east is striking. At Los Naranjos, Masica Incise makes up a very small proportion of the Yojoa phase materials (Baudez and Becquelin 1973:296-299). While the decorations in red paint and incision are related to Copan and central Santa Barbara examples, forms are predominantly neckless jars with crude incision on the vessels´ upper shoulders. Applied animal heads surrounded by incised lines are found on some vessel walls.

A minor type from the Comayagua valley, Sula Jicaque Style, with fine incised linear and curvilinear designs on low, straight necked and neckless jars, is closely related to Masica (Stone 1957:43, Fig. 39, Pl. 53c). Small amounts

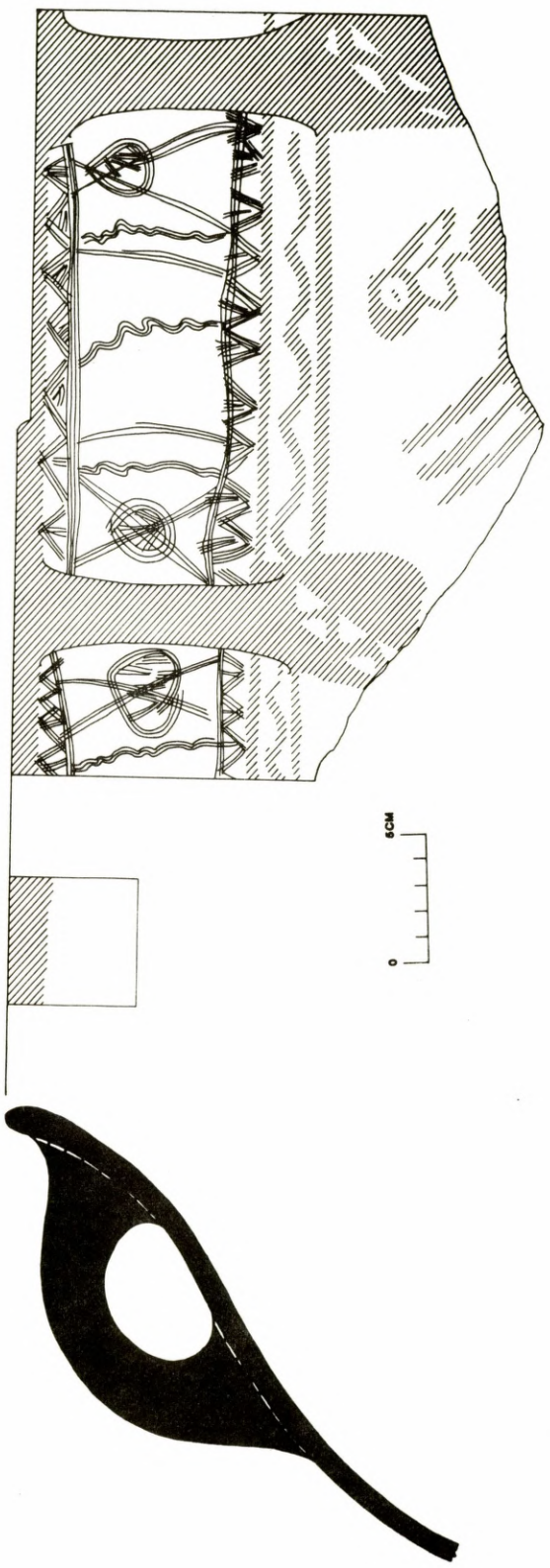

Fig. 17. Masica Incised: Zaragosa variety.

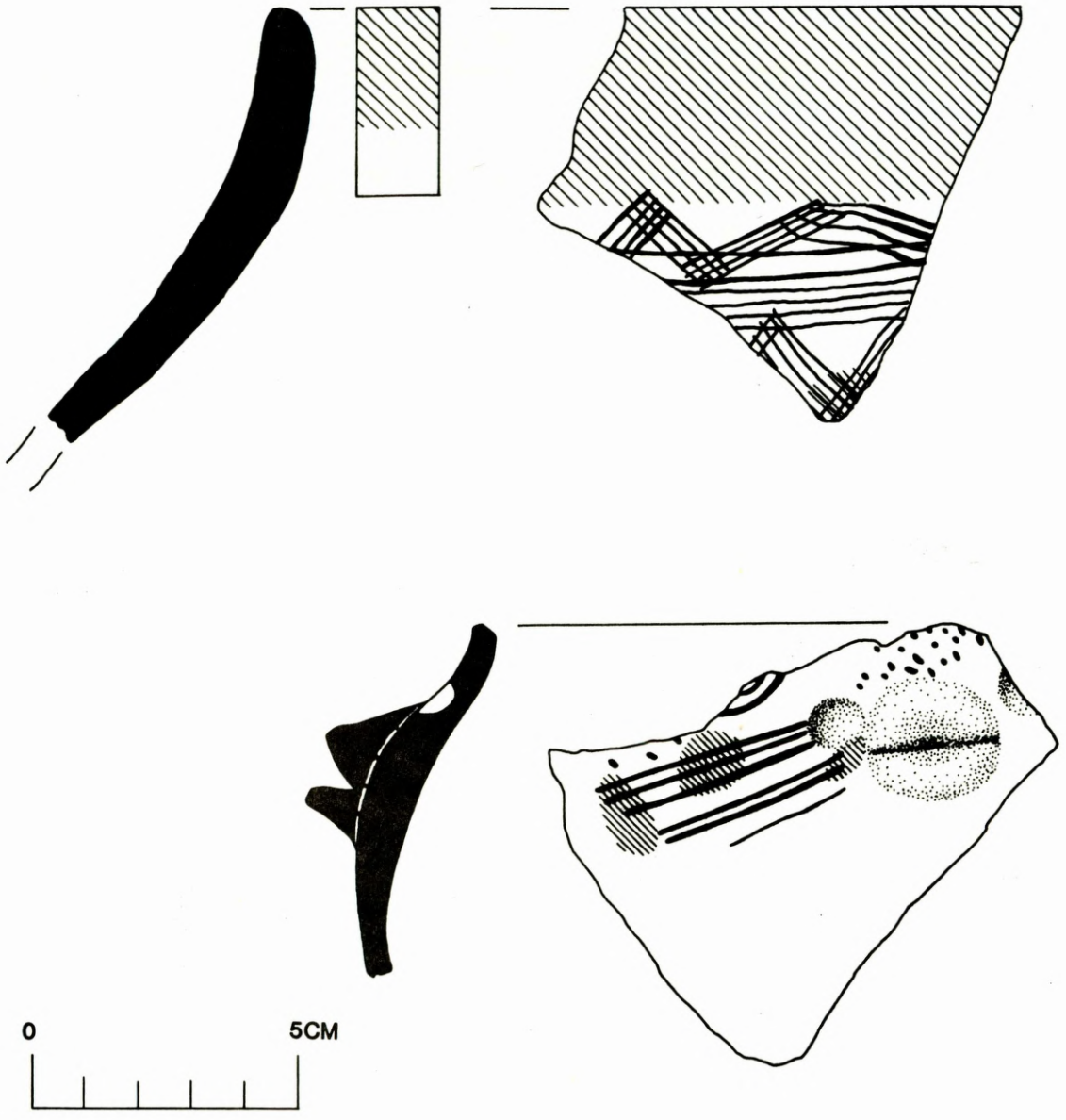

Fig. 18. Masica Incised: Zaragosa variety.

of a very similar type are reported in Lo de Vaca III levels (Baudez 1966:312, Pl. 6e, Incise e Rouge) and at the site of Las Vegas (Baudez and Becquelin 1973:299).

On the Sula plain, jars with "delicate, wavy comblike patterns" on their unslipped necks (Strong, Kidder, and Paul 1938:40, 49, 66, 68) may be part of the Masica system. Stratigraphic excavations at Travesia and other Sula sites suggest that Masica jars disappear late in the Late Classic (Joyce 1983a:4-5; Sheehy 1978:122), and never constituted

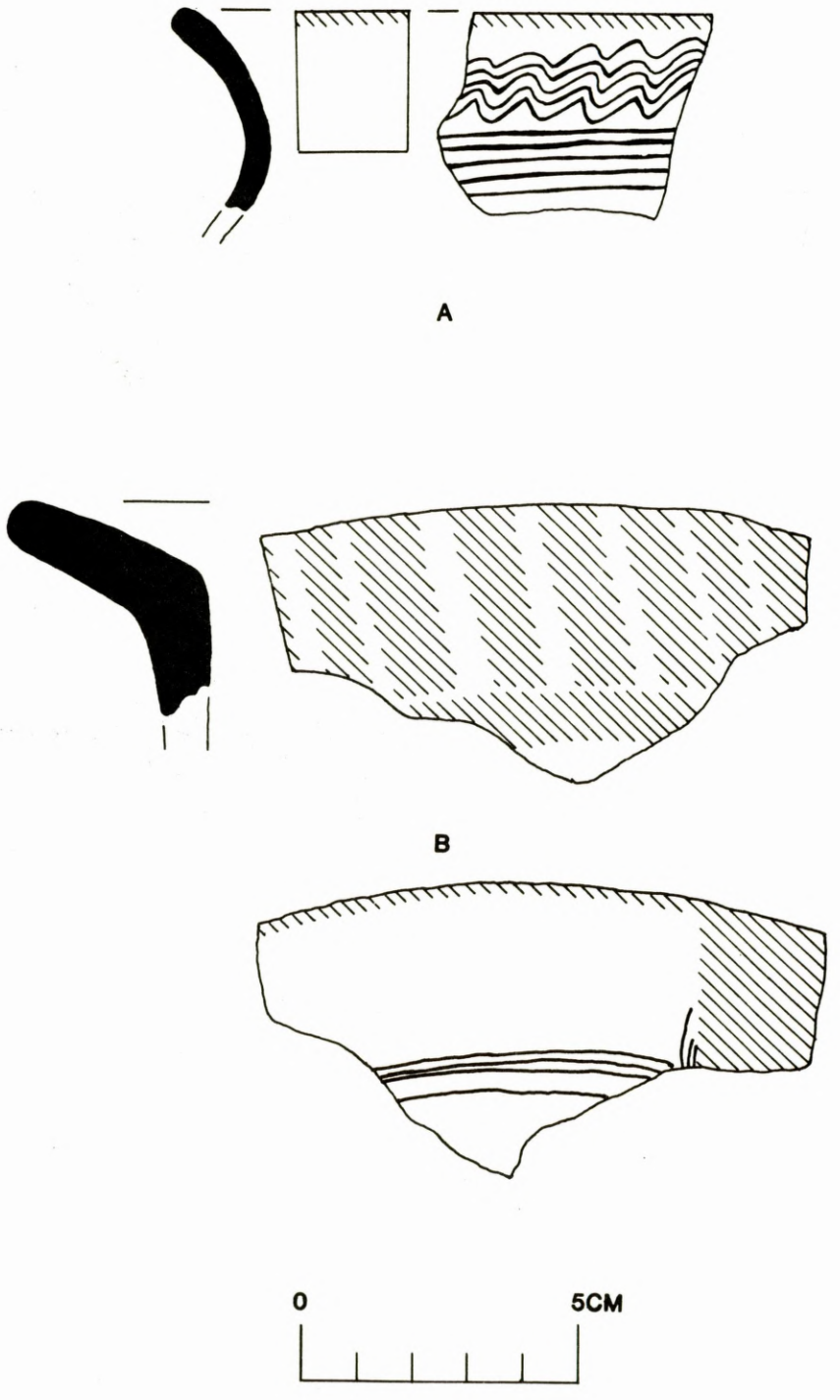

Fig. 19. a, Masica Incised: Tierra Blanca variety; b, Maroncho Red-and-incised: Maroncho variety.

anything but a minor proportion of Sula plain Late Classic materials (M. Beaudry and J. Henderson, personal communication 1986).

In the Naco valley a complete ceramic sequence through the Early and Late Classic attests to the almost total absence of Masica vessels (Urban 1986). Only the massive Late Classic center of La Sierra produces small amounts of Masica Incised: La Sierra variety, which more closely resembles Maroncho than Masica, Reina, or Cruz types (J. Henderson, personal communication).

Loma Larga system. This system occurs exclusively in central Santa Barbara in Pena Blanca White-slipped: Pena Blanca variety in the Gualjoquito and Tencoa valleys in the north, and Calix Red-orange: White-washed variety at El Nispero and La Mariposa in the south (Hasemann 1979; Urban and Schortman n.d.). Both types occur in small proportions and consist of sub-hemispherical, flaring wall, and restricted orifice bowls slipped white and decorated with red painted linear and curvilinear designs.

Cancique system. Cancique purplish red-on-orange vessels continue to be found in small numbers in central Santa Barbara, Los Naranjos (Baudez and Becquelin 1973:288-290), and the Sula plain (Joyce 1984:10), while appearing as a minor type at Copan (Viel 1983:526; Coner) and in Lo de Vaca III levels, Comayagua valley (Baudez 1966; Baudez and Becquelin 1973:290; Stone 1957: Fig. 50A). No clear signs of the earlier trichrome type (Tirantes) are found in any studied region. No Cancique material was recovered from Late Classic deposits in the Naco valley. Cancique types are generally absent from deposits dating to the end of the Late Classic in all areas.

Otuta Incised and Carved Supersystem

Pottery vessels decorated with intricate deeply carved or incised designs in this supersystem are included in two systems, Ardilla and Besal. They are relatively rare in west-central Honduras.

Ardilla system. Representatives of this class are found almost exclusively at Copan as Madrugada Modelado y Grabado (Viel 1983:524-525; Coner; cf. Carved Brown Ware and Black Ware, Carved Bowl, Longyear 1952:97-98) and Ardilla Exciso y Inciso (Viel 1983:524; Coner). Madrugada is composed of flaring wall bowls and cylinders with modeled and deeply incised pseudo-hieroglyphic rim bands and naturalistic motifs, frequently human figures; Ardilla is similar except that design is formed by excising and incising. Both types may have red paint applied as well. Together they constitute a minor part of Late Classic assemblages.

Madrugada has been found in central Santa Barbara and a carved "Maya" sherd is reported in the Comayagua valley (Baudez 1966:315), but in both areas the very small amounts suggest importation from Copan. Elsewhere, in the Sula plain, at Santa Rita and Las Flores Bolsa (Strong, Kidder, and Paul 1938:44, 51), and in the Yojoa-Comayagua corridor (Stone 1957:60), limited numbers of pottery imitations of carved marble vessels are found and are clearly separable from the Copan Ardilla sherds in that they lack hieroglyphs and naturalistic figures. The origins of this material may lie in the Sula plain and its distribution was primarily restricted to the eastern regions of the study zone.

Besal system. At Copan, Besal Inciso (Viel 1983:523; Coner) unslipped, burnished, open bowls and cylinders with simple, shallowly incised geometric and naturalistic designs form a consistent but minor component. In northern central Santa Barbara, a ubiquitous but minor Besal system type is Cerro Heralo Incised (Fig. 20), which is so closely similar to Besal at Copan that it was probably a local imitation and suggests close links between the two areas. Cerro Heralo forms are primarily restricted neck bowls and an easily eroded red paint is found on the rim and body.

Elsewhere, at Los Naranjos the rare Capucal Incise Poli (Baudez and Becquelin 1973:300-303), slipped red open bowls incised below the rim, seem to be inspired by Copan examples and may be imported rather than locally manufactured. Sula valley incised pottery bears little resemblance to Besal types from Copan, Santa Barbara, and Los Naranjos (cf. Joyce 1983b:16-17), and may constitute a distinct system; the Naco and Comayagua valleys have produced no clear members of this system.

Polychrome Supersystem

The single most characteristic feature of the Late Classic in west-central Honduras is the development of a wide variety of polychrome types whose present definitions are variably precise. Following the lead of the 1985 and 1986 Honduran Ceramics Conferences, the west-central Honduran polychromes are divided into three systems: Copador Polychrome, Ulua Polychrome, and Chamelecon Polychrome (Agurcia and Henderson, this volume).

Copador Polychrome system. The two most prominent members of this system are Copador Polychrome itself and Arambala Polychrome. Copador is characterized by vessels with a fine cream paste, a burnished cream or orange slip, and painted decoration in black, specular hematite red, and orange (Viel 1983:520-522; Coner; Longyear 1952:99-101). Pseudo-glyphic painted bands frequently encircle vessel rims below which on the exterior are seated or reclining human figures and large geometric or glyphic designs (see Beaudry, this volume). The interior just below the rim is

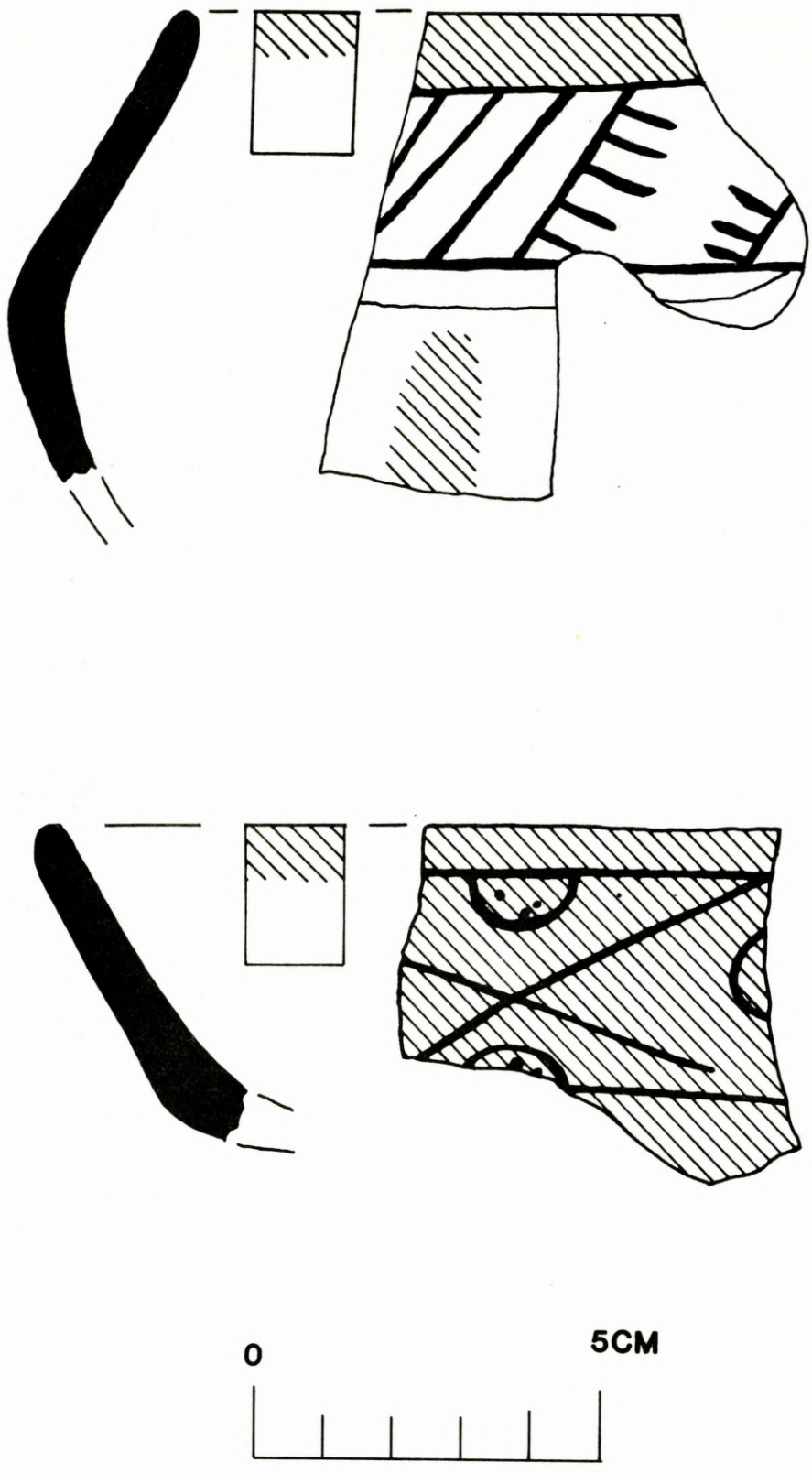

Fig. 20. Cerro Heralo Incised: variety unspecified.

sometimes decorated with painted pseudo-glyphic bands or lines of stylized birds. Figures are outlined in red or black and filled with orange or red. Forms include cylinders, hemispherical or composite profile bowls, and effigy jars usually with modeled frog faces and limbs on the shoulder. The last two forms appear exclusively late in the Late Classic sequence at Copan (Longyear 1952:30).

Copador has a restricted distribution within the study area, the greatest concentration being at Copan where forms are also the most diverse (Beaudry 1983). Mineralogical and chemical tests strongly indicate that this region was the focus of Copador production (Beaudry 1983; Bishop et al. 1986). Within the Copan valley, Copador vessels are found in both ceremonial and domestic contexts, the latter spanning the range from elite to humble households (Beaudry 1983:354-355; Longyear 1952:99-101). Copador is only rarely recovered at most sites in the study area except in central Santa Barbara, where it represents roughly 3.5% of the Late Classic polychromes and was probably imported from Copan. Forms in Santa Barbara are primarily limited to sub-hemispherical and flaring wall bowls, while at Los Naranjos the vessels are sub-hemispherical bowls (Baudez and Becquelin 1973:294), suggesting that a limited range of forms may have been exported from Copan.

Arambala Polychrome is composed of composite and convex wall bowls with a burnished orange slip and decorated with dull red, orange, and black painted human, bird, and geometric motifs. Although designs so closely resemble those on Copador that fragments have been labeled "imitation Copador" (Longyear 1952:62-63), Arambala is distinguished by its red paste and lack of specular red paint. It is currently thought to have been produced in the Chalchuapa site zone of western El Salvador (Beaudry 1983:139-140) and is only found in west-central Honduras at Copan.

Ulua Polychrome system. The primary component of this system is Ulua-Yojoa Polychrome (sometimes referred to as Babilonia Polychrome), whose vessels are slipped red, orange, or yellow, and decorated--primarily on the exterior--with elaborate designs painted in red, black, and white (e.g., Baudez and Becquelin 1973:257-267; Strong, Kidder, and Paul 1938; Stone 1957). Motifs vary from geometric designs (Bold Geometric) and naturalistic animal figures (Bold Animalistic) to humans seated, linked ("dancing figures") or in processions (Mayoid). Panelling, "textile" painted elements, stylized profile heads, pseudo-glyphs, and carved geometric designs are also found. Interiors are decorated with circumferential color bands and sometimes short vertical elements termed "counters." The most common form is the cylinder, followed by hemispherical and restricted orifice bowls, tripod plates, and low necked jars commonly equipped with two small tube

handles. A possibly significant variant consists of cylinders with paired, painted lugs that represent part of the face of monkey and bird figures.

The distribution of Ulua-Yojoa pottery partially overlaps that of Copador but is largely complementary to it. Vessels are common in the Sula plain, on the northern shore of Lake Yojoa, and in the Comayagua valley in what appear to be elite and non-elite residential contexts. It was probably imported into the Copan valley where it is somewhat restricted to elite residences (Beaudry 1983:330, 332). Ulua-Yojoa constitutes the majority of Late Classic polychromes in northern and southern central Santa Barbara, and most seem to have been manufactured locally, though a significant minority with fine pastes may have been imported (and may be associated with elite compounds). In the Naco valley, the few Ulua-Yojoa vessel fragments found were almost exclusively associated with elite residences and were probably imported (Urban 1986).

Warranting separate classification is Bold Geometric with Incision (Stone's Bold Geometric, Textile Patterns; 1957:33), consisting of high collared, orange slipped, globular jars with geometric painted decorations below the rim and deeply incised and red painted geometric motifs below that. It is most abundantly found in the Sula plain (Joyce 1983a, 1983b; Sheehy 1978; Stone 1941; Strong, Kidder, and Paul 1938), but drops off dramatically beyond, being rare at Los Naranjos, in the Comayagua valley (Baudez 1966:312; Stone 1957:32-33), in the Naco valley, and in central Santa Barbara. It is absent at Copan (Glass 1966:171). Olingo Polychrome at Los Naranjos (Baudez and Becquelin 1973:291-293) may be a local variant of this type.

At Los Naranjos, Chichipate Polychrome, which is generally similar to Ulua-Yojoa polychromes, represents a significant portion of the Yojoa phase collections, and some sherds--perhaps imports--have been recovered from northern central Santa Barbara. Other types in this system include Sula Polychrome and Tenampua Polychrome which are yet to be formally defined (see Agurcia and Henderson, this volume).

Chamelecon Polychrome system. This system is characterized by orange slipped vessels decorated with red and black painted designs. One of the most prominent members of the system is Gualpopa Polychrome, originally defined at Chalchuapa in western El Salvador (Sharer 1978:51-52). Gualpopa is found in west-central Honduras in primarily hemispherical bowl forms, decorated with animal, geometric, and glyphic designs on the exteriors and having plain interiors (Beaudry 1983:385). Two taxa in the Naco and Sula regions, Chamelecon Polychrome (Fig. 21) and Chasnigua Red-and-black-on-orange, are local products

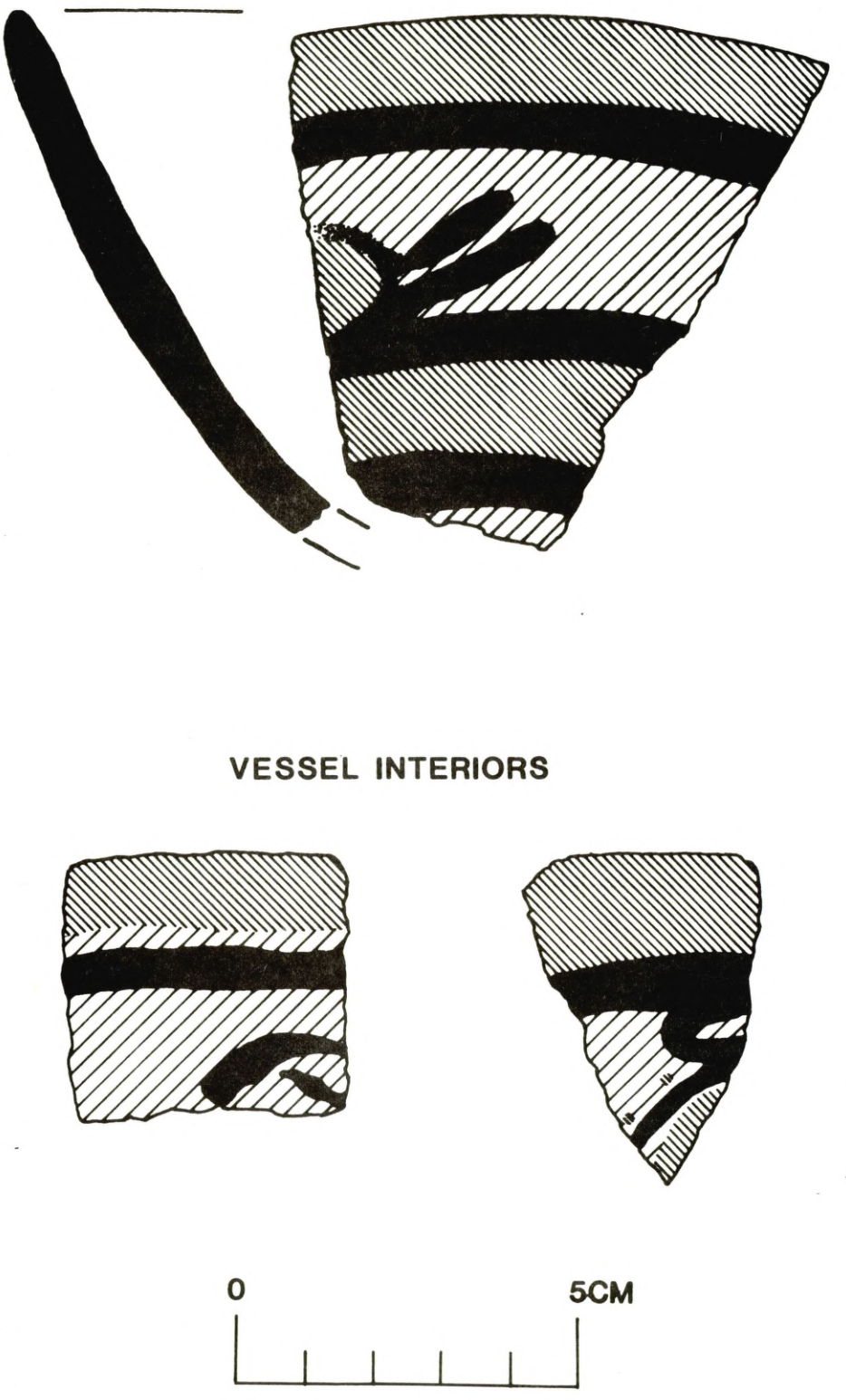

Fig. 21. Chamelecon Polychrome.

closely related to Gualpopa (Urban 1986; M. Beaudry and J. Henderson, personal communication 1986). These bowls are decorated with red and black naturalistic (primarily birds and crabs in the Naco valley) and linear designs. Chasnigua includes examples of negative-painted linear designs (J. Henderson, personal communication 1984).

Gualpopa represents a significant proportion of the Late Classic Copan collections (Viel 1983:519-520; end of Acbi through Coner; cf. Longyear's Polychrome Ware, Simple Bowls, 1952:58-60, 99). Gualpopa's distribution within the Copan valley is more restricted to elite-level residences than was the case with Copador (Beaudry 1983:354-355). Nevertheless, Gualpopa still outnumbers Ulua-Yojoa here and technical analyses point to its production within the valley (ibid.:137). Chasnigua Red-and-black-on-orange seems to be fairly common in the Sula plain while in the Naco valley Chamelecon Polychrome is the only polychrome type distributed at both elite and non-elite residences. Gualpopa has not been clearly recognized in central Santa Barbara while very small amounts of Chamelecon, probably imports, have been recovered.

Caterpillar Polychrome is a Chamelecon system type localized at Copan (Viel 1983:519; end of Acbi through Coner; cf Polychrome Large Tripod Dish, Longyear 1952:100). This type consists primarily of large tripod plates with interior decoration of geometric or glyphic bands and designs executed in red (sometimes specular hematite) and black paint. Caterpillar appears to represent a moderately high proportion of the Copan Late Classic assemblage.

Several general interregional patterns concerning polychromes are proposed for later testing. Copan was closely linked to central Santa Barbara and western El Salvador as evidenced by the considerable amounts of Copador Polychrome in these areas, which originated in the Copan region. The spread of at least the modes of surface treatment, form, and decoration of Gualpopa linked Copan with western El Salvador and societies in the Naco and Sula regions. Ulua-Yojoa polychromes were traded into Copan, a major recipient but not a manufacturer of this type. The sources of these polychromes are not known and could have been quite diverse. Presumably different regions of western and central Honduras also traded local variants of Ulua-Yojoa polychromes among each other though these connections cannot currently be traced. The Sula plain may have been the center of production for Bold Geometric-with-Incision containers, which were then traded to central Santa Barbara, Lake Yojoa, and the Naco and Comayagua valleys, but not to Copan. Chichipate Polychrome, possibly manufactured around Lake Yojoa, was traded west to central Santa Barbara near the end of the Late Classic period.

It seems clear that the regions of west-central

Honduras were linked into complex, overlapping exchange networks during the Late Classic along which moved distinctive polychrome vessels and related concepts. Copan was at the center of at least two of the most widespread of these networks linking west-central Honduras with western El Salvador. This pattern suggests Copan filled a role as extraregional mediator among societies in west-central Honduras and El Salvador.

Unslipped Vessels

Unslipped vessels are a major part of all assemblages, providing the bulk of the utilitarian containers employed in daily activities. This category is divided into two systems, Hijol and Iotampoco.

Hijol system. Forms are necked jars and open bowls. At Copan, the zoned burnished Hijol Cafe type continues in decreasing frequencies from the Early Classic (Viel 1983:508), while in northern central Santa Barbara the non-zoned burnished examples are Chorrera Unslipped: Coropa variety and Sabanilla Self-slipped: Sabanilla variety. At Los Naranjos, Mongora Brun appears to contain a few burnished vessels (Baudez and Becquelin 1973:164-169), and at Santa Rita and Las Flores Bolsa in the Sula plain "carefully polished" sherds are noted (Strong, Kidder, and Paul 1938:40, 49, 66). Unslipped burnished vessels do not seem to have been important in the Sula plain in the Late Classic (Joyce 1983b), in the Comayagua valley (Baudez 1966), nor in the Naco valley.

Although representatives of the Hijol system seem to be more widespread in the Late Classic than in the Early Classic, they are not common anwhere. This is part of a trend toward decreased effort invested in the finishing of utilitarian vessels which may have begun in the Preclassic and continues through the Early Postclassic in the study zone. No clear interregional patterns are evident in the distribution of burnished types.

Iotampoco system. The vast majority of all unslipped vessels from all parts of the study area simply have smoothed surfaces, and are represented by many types. Forms are large open bowls and jars with considerable variations in the neck. Most of the vessels are undecorated, although striation and a red wash sometimes occur. While striated, unslipped jars are common at Copan (Cascada Estriado, Viel 1983), their frequency in Sula collections remains uncertain. No clear patterns are currently obvious in the Iotampoco system. The Copan and Sula regions may be linked by the shared mode of striated decoration, but Copan is the only region continuing to produce comales with loop handles (in Iotampoco Burdo; Viel 1983:511; cf. Longyear 1952:91).

Special Ceramics

Of the Late Classic pottery from the study area that does not fit into any defined systems, those of greatest interest are the infrequent Tepeu-style polychrome bowls with notched basal moldings (Longyear 1952:101) and cylinders "painted in the middle Motagua style" (ibid.:30) recovered from excavations in the Copan site core. These types attest to the enduring ties between Copan, the Maya lowlands, and the middle Motagua drainage involving polychrome pottery exchange.

Red slipped types that continue to appear in the study area are not sufficiently well understood to place into systems at present. Red slipped vessels are fairly common at Copan and in the Comayagua and Sula valleys, less frequent in central Santa Barbara and on the north shore of Lake Yojoa, and are not recorded from the Late Classic Naco valley.

CONCLUSIONS

We now return to our initial questions, the first of which was the broadest: "To what extent is Copan, ceramically, a west-central Honduran site?" The vast majority of Early and Late Classic Copan pottery bears strong resemblances to contemporary ceramics from western and central Honduras. Excluding polychromes, Copan shares 11 of the Early and Late Classic systems with its eastern neighbors. Together, the ceramics from these shared systems represent the majority of all pottery from Classic period Copan deposits. Only a very minor proportion of Classic pottery at Copan shows clear ties with other, more "Maya," zones to the west. All of this strongly suggests that underneath the imposing monuments to Copan's Maya status--hieroglyphic inscriptions, stelae, structure forms, and the like--is a ceramically non-Maya, west-central Honduran site. More tentatively, these data lead to the hypothesis that however Copan came by its Maya trappings in the Early Classic, the change did not involve a massive population replacement. Copan remained throughout the Classic tied quite closely to western and central Honduran interaction systems as attested in the quotidian ceramics of its residents.

The second question we raised, "What insights does pottery provide into the patterns of Copan's interaction with specific regions?", is harder to answer. On the basis of our earlier assumption that the more similar the ceramics of two regions, the more intense their interactions, we will use the distribution of ceramic systems to phrase a hypothetical answer. The greater the number of ceramic systems two regions share, the closer their presumed levels of communication. If two regions

both lack representatives of a system, this may also give evidence, albeit negative, of ceramic similarities. These data will also be taken into account in determining the degree of interregional ceramic commonality.

The known distributions are summarized in Tables 1 and 2. Here, the regions in question are listed on the left and the systems are arranged across the top. Given the absence of firm figures that would permit the calculation of the relative abundance of types within the assemblages of different regions, the local importance of a system is subjectively estimated. Two regions possess a commonality when they share the same system in roughly the same amounts or both lack that system. A "ceramic commonality" is, therefore, a crude measure of ceramic similarity based on the distribution of pottery systems.

In the Early Classic (Table 1), Copan and central Santa Barbara exhibit 8 ceramic commonalities of a total of 12 comparisons. The Sula plain shares 6 ceramic commonalities with Copan while Los Naranjos shares 3 and Naco 5. This suggests that the residents of the Copan valley and the middle drainage of the Rio Ulua were in close intercommunication during the Early Classic era and form a distinct interregional interaction network. Nevertheless, contacts--as represented by ceramic commonalities--were also maintained with the Naco and Sula valleys and, to a lesser extent, with the north shore of Lake Yojoa.

With the exception of the central Santa Barbara-Copan interregional similarities, no other clear patterns can be seen in the table. The number of ceramic commonalities among regions varies from three to six, suggesting an extensive, if not particularly intensive, pattern of interregional contacts. Interactions appear to have been diffuse, resulting in a pattern of general ceramic similarity throughout the study zone.

The Late Classic period (Table 2) witnesses the gradual diminution of the Lupo, Bolo, and Loma Larga systems from the preceding period to the point where the representative types of each are found in but a single region. We have chosen to ignore these systems in the following discussion on the assumption that their inclusion may artificially increase the impression of similarity among otherwise distinct regions based solely on the common absence of areally restricted types.

The close links between the Copan and central Santa Barbara regions persist into the Late Classic. These two regions continue to share a total of 8 commonalities out of a possible 10. Los Naranjos and the Comayagua valley now share 7 ceramic commonalities, suggesting that a second interregional interaction network may be represented here.

Table 1. Early Classic Interregional Ceramic System Distribution (Polychromes Excluded)*

	SYSTEM											
	1	2	3	4	5	6	7	8	9	10	11	12
Copan	+	0	+	-	-	+	+?	+	-	+	0	+
CSB	+	0	+	0	+	+	+	+	-	+	+	+
LN	+	+	-?	0	0	-	+	-	-	0	-	0?
Naco	0	0	-	-	+	+	0	+	0	0	0	0?
SP	+	-?	+?	+?	0?	+?	+	+	-	0	-	-?

* The Iotampoco system was not included here because its distribution did not show significant variation among studied regions.

Table 2. Late Classic Interregional Ceramic System Distribution**

	SYSTEM												
	1	2	3	4	5	6	7	8	9	10	11	13	14
Copan	-	0	+	+	+	0	-	-?	+	0	-	-	+
CSB	-	0	+	-	+	0	+	0	+	-	-	-	+
LN	+	+	-	0	0	-	+	0	-	0	-	0	-
Naco	0	0	-	-	+	+	0	0	-	0	0	0	0
SP	-	0?	+	-?	+	+	-	0	-	0	-	0	0
COM	-	0?	-?	0?	0?	0	+?	0	-	0	-	0	0

** Polychromes are excluded, and unslipped vessels were not included because there were no significant interregional patterns observed in their distributions.

Key to Tables 1 and 2

System 1: Sumpul
System 2: Bolo
System 3: Chilanga
System 4: Chasnigua
System 5: Chinacla
System 6: Magdalena
System 7: Chinda
System 8: Lupo
System 9: Masica
System 10: Loma Larga
System 11: Cancique
System 12: Hijol
System 13: Ardilla
System 14: Besal

CSB: Central Santa Barbara; LN: Los Naranjos; SP: Sula plain; COM: Comayagua.

\+ major portion of assemblages
\- minor portion of assemblages
0 absent
? uncertain

Beyond these patterns, no clear interaction systems are presently evident. It is of some note, however, that the Naco and Sula valleys, which had heretofore shared only 3 commonalities, now possess 6. This sudden upswing in ceramic similarity may point to increased contact between the two areas and the development of a distinct interaction system. In sum, two--possibly three--interregional interaction networks crystallized during the Late Classic out of the diffuse pattern of contact that characterized the preceding era. Contact among regions incorporated in different networks continued with 11 of the dyadic region pairs exhibiting 3-6 ceramic commonalities. Nevertheless, ceramic dissimilarities were also increasing: 4 pairs of regions shared only 1-2 commonalities. This pattern suggests a trend from the Early to Late Classic of increasing restriction of contact within specific interregional networks.

Although it is beyond the bounds of this paper to consider data other than ceramics, a recent reconstruction of Late Classic interaction networks within west-central Honduras, including Copan, confirmed strong links between Copan and Santa Barbara (Urban and Schortman, in press). This study, which took into account architecture, site planning, and various artifact categories, also suggested the existence of two other interaction systems linking the Lake Yojoa-Comayagua and Sula-Naco regions respectively. The present ceramic data seem to support this reconstruction.

The significance of the distribution of Late Classic polychrome pottery is less clear and, as noted earlier, suggests a complex pattern of interregional interaction. Table 3 summarizes these data.

Copan and central Santa Barbara are linked by the eastward exchange of Copador Polychrome. Copan is tied with the Naco and Sula plains by the spread of ideas of decoration, surface treatment, and vessel form related to the Chamelecon system among these areas. No actual exchanges of vessels are indicated in this latter case, however, as opposed to the situation with Copador. Ulua-Yojoa Polychromes apparently came into the Copan valley via trade though their sources are not known. Bold Geometric-with-incision and Chichipate polychromes traveled by their own exchange systems from the Sula plain and Los Naranjos, respectively. These systems did not include Copan, however. Polychrome system distributions suggest that Copan maintained extensive contacts with a diverse array of southeast periphery regions. How direct and persistent these links were remains to be determined.

The final question we wish to pose is, "What was Copan´s role in integrating western and central Honduran societies within larger scale interaction networks?" The

Table 3. Late Classic Polychrome System Interregional Distributions

	System 1	System 2			System 3	
	a	a	b	c	a	b
Copan	+	+	0	0	+	0
Central Santa Barbara	+	+	-	-	0?	-
Los Naranjos	-	+	-	+	0	0
Naco valley	-	-	-	0	0	+
Sula plain	-	+	+	0	0?	+
Comayagua valley	-	+	-	0?	0	0

System 1: Copador Polychrome, 1a: Copador Polychrome
System 2: Ulua-Yojoa Polychrome, 2a: Ulua-Yojoa; 2b: Bold Geometric with Incision; 2c: Chichipate
System 3: Chamelecon Polychrome, 3a: Gualpopa; 3b: Chamelecon/Chasnigua

Note: Only polychromes found in more than one region were included here. See key to tables 1 and 2 for symbols.

widespread distribution of Izalco Usulutan pottery throughout the study area in the Early Classic suggests a link with adjacent portions of El Salvador and Guatemala, where this ceramic is also found. It is of some interest to note that Copan, especially early in the period, has one of the largest concentrations and greatest diversity of forms of Izalco Usulutan pottery within the study zone. We propose that the residents of Copan in the Early Classic played a significant role in the mega-system of interaction reflected in the distribution of Izalco Usulutan. Apparently this role began in the Late Preclassic when Copan had one of the highest proportions of this ceramic of any site outside of El Salvador (Longyear 1952).

Copan's close ties during the Late Classic with societies in western El Salvador are attested by the aforementioned polychrome distributions. Both Copador and Gualpopa are found in large amounts at Chalchuapa (Sharer 1978) and strongly point to close links. This is especially true for Copador, whose manufacture was monopolized by Copan valley residents (Beaudry 1983; Bishop et al. 1986). The distribution of Arambala also joins these two zones (Sharer 1978).

The postulated focal role for Copan's residents in large scale interaction systems is supported by the recovery of vessels here that were imported from the Maya lowlands and middle Motagua drainage (polychromes and special ceramics). No other excavated site in the study

area has produced this diversity of foreign or foreign-inspired pottery. Interestingly, the number of vessels coming from the Maya lowlands to Copan was relatively small. On the basis of present ceramic evidence alone, Copan´s residents appear to have maintained stronger ties with non-Maya areas outside the study zone than with their Maya neighbors. This view is directly opposed to evidence for Maya contacts in other data categories, e.g., sculpture, hieroglyphics, and architecture. The significance of this dichotomy is unclear, but it points up the truism that one class of data does not tell the whole story in reconstructing ancient behaviors and ties.

On the basis of the data reviewed in this study, we suggest the following interaction model. Throughout the Classic era Copan and central Santa Barbara residents formed a distinct west-central Honduran interaction system. During the Early Classic no other networks are discernible and the pattern of interregional contacts was diffuse. The Late Classic saw the formation of the Los Naranjos-Comayagua and, possibly, Sula-Naco interaction systems. In this way, individual regions were tied into larger interregional networks within which interaction was fairly intense and between which relations were less frequent. These networks, in turn, were linked into a larger communication system including societies in adjacent Guatemala, Belize, and especially El Salvador, through intermediaries at Copan. Copan´s residents functioned as crucial middlemen in this complex multi-regional interaction net.

There is currently some uncertainty as to how Copan achieved its Classic Maya status, whether by direct imposition of a foreign elite or local adoption of alien forms (Leventhal et al. 1982). Whatever the case, Copan´s preeminence in the Early Classic must have been due in large part to the role its residents played in systems of interregional interaction. Copan, in short, may be seen as a west-central Honduran site, like its "non-Maya" neighbors, whose strategic position in interaction systems provided the impetus to its unparalleled socio-political developments.

Clearly what we have presented is a hypothesis founded on a narrow data base (ceramics) which is itself incomplete. This view must be tested against a wider range of data already in hand, including unpublished ceramic analyses, settlement patterns, architecture, site planning, and other artifact classes, along with data yet to be collected from uninvestigated or only partially investigated regions. The last work is particularly important because of the many spatial gaps in our knowledge of this portion of the southeast Maya periphery. Regardless, it is clear from this study that developments in west-central Honduras cannot be viewed in isolation.

All of the societies of the area were part of regional, interregional, and larger interaction systems. Ceramics provide one important tool in reconstructing these systems. It remains for us to both expand our definitions of interregional networks and, most importantly, develop the theoretical constructs that will allow us to understand their functioning.

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16

The Terminal Classic Ceramics of Cerro Palenque, Honduras: A Southeastern Outlier of the Boca Ceramic Sphere

Rosemary A. Joyce

Fine orange paste ceramics were the predominant serving vessel subcomplex in the large Terminal Classic zone of the site of Cerro Palenque, in the Ulua valley of northwest Honduras (Fig. 1; Joyce 1985a). In the Ulua valley, fine orange ceramics had previously been reported from the site of Santa Rita, where they were misidentified as examples of Early Postclassic Silho (X) Fine Orange (Glass 1966), and from the site of Travesia, where they were correctly aligned with the Altar Fine Orange group (Sheehy 1978, 1982). The size of the collections excavated at Cerro Palenque and the excavation of a number of contexts containing restorable whole vessels allowed the detailed definition of the Terminal Classic ceramic complex, providing a basis for evaluating its relationship with the contemporary ceramics of the Maya lowlands.

The fine paste serving vessels of Terminal Classic Cerro Palenque are related to, but not identical with, types of the Altar Fine Orange group of the Boca ceramic sphere (Adams 1971:104-106, 132-134; Sabloff 1975:32, 174-228; Willey et al. 1967). The Ulua valley fine paste ceramics have a more restricted range of forms, and decorative techniques employed are limited. Incised and stamped decorated fine paste ceramics lack the confrontation scenes typical of the Altar Fine Orange group Pabellon Modeled-carved type (Sabloff 1975:195-198), to which they are most comparable. While the absence of a slip is rarely noted in Altar Fine Orange (Sabloff 1975:32; R. Smith 1971:18-19), the Ulua valley fine paste ceramics typically lack a contrasting slip. These differences suggest local manufacture following the pattern of the Altar Fine Orange group.

A similar situation is suggested by spiked censer forms comparable to Miseria Applique group (Sabloff 1975:174-179) of the Boca ceramic sphere. However,

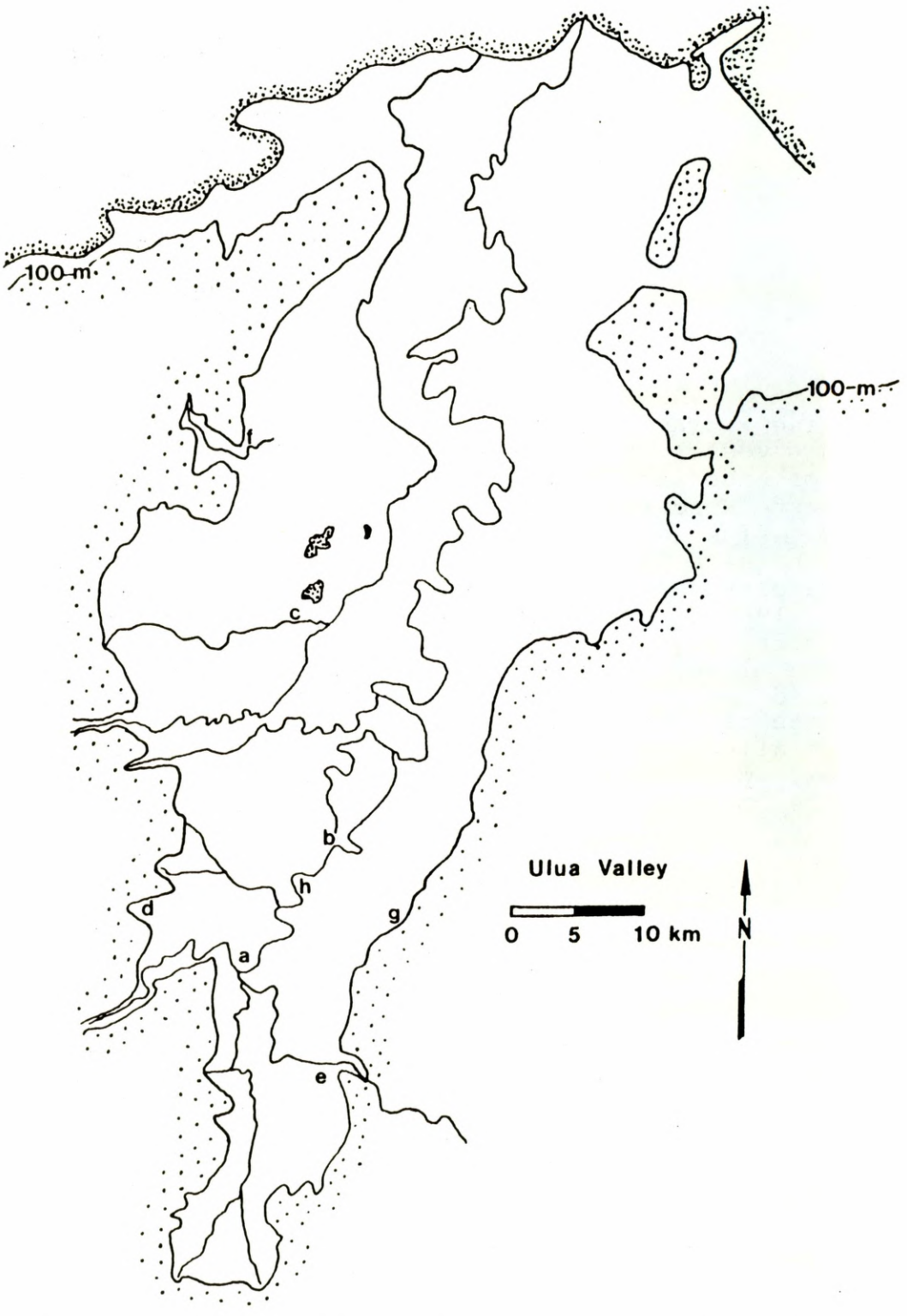

Fig. 1. The Ulua valley and sites mentioned in the text: (a) Cerro Palenque, (b) Travesia, (c) Curruste, (e) Santa Rita.

unslipped, red slipped, and red painted jars and basins of the Ulua valley Terminal Classic continue long established Honduran traditions. While slight modal shifts in this domestic subcomplex can also be traced to lowland Maya ceramic complexes, the much less marked degree of external influence on these forms reinforces the interpretation of interaction between the western Maya lowlands and the Ulua valley in the Terminal Classic as limited. The succeeding sections discuss the nature of the ceramic evidence for interaction between the Maya lowlands and the Ulua valley at the end of the Classic period, before returning to a consideration of the nature of those interactions.

CERRO PALENQUE

Cerro Palenque is a 240 m high rounded limestone hill in the southwest Ulua valley, located at the confluence of the Ulua and Comayagua rivers and the Rio Blanco which originates near Lake Yojoa (Fig. 2). On the basis of unpublished excavations by Dorothy Popenoe, Stone (1940:391, 1941:57-58) described the site as an Early Postclassic hilltop fortress, lacking resources for permanent habitation, with architectural ties to the Late Classic Ulua valley center of Travesia. As part of the Proyecto Arqueologico Sula of the Instituto Hondureno de Antropologia e Historia, in 1980 I directed survey in the low, open hills that extend north from the peak of Cerro Palenque, between the modern towns of Santiago, Pimienta, and El Plan, and completed survey and mapping of sites in this area in 1981. The majority of cultural remains, concentrated in the four sq. km area immediately north of the peak of Cerro Palenque, included Stone's Cerro Palenque (designated CR 44) on the peak of the hill, composed of 5 groups of structures including a probable reservoir. Lying to the north, at elevations 60 to 100 m lower, was the much larger site CR 157, with approximately 500 mapped structures and features covering 24 ha.

In 1982 and 1983 I conducted excavations in the Cerro Palenque archaeological zone, confirming that CR 44 was contemporary with the site of Travesia and related to it in architecture, sculpture, and ceramics (Joyce 1985a). CR 157, contrasting in architecture, lithics, and ceramics with both CR 44 and Travesia, was a unique Terminal Classic public center. The main plaza of CR 157, 150 m by 300 m, is twice the size of other major Classic period Ulua valley sites such as Travesia, Curruste, and Quebrada Encantada (Stone 1941: Fig. 48; Hasemann, Van Gerpen, and Veliz 1977: Fig. 3; Gordon 1898: Fig. 3). A ballcourt with alley, 11 m wide and with benches 39 m long, is oriented north-south and occupies the southwest corner of the major plaza. Associated with this major center are 103 patio-centered residential groups in 51 clusters (Joyce 1985a:93-124).

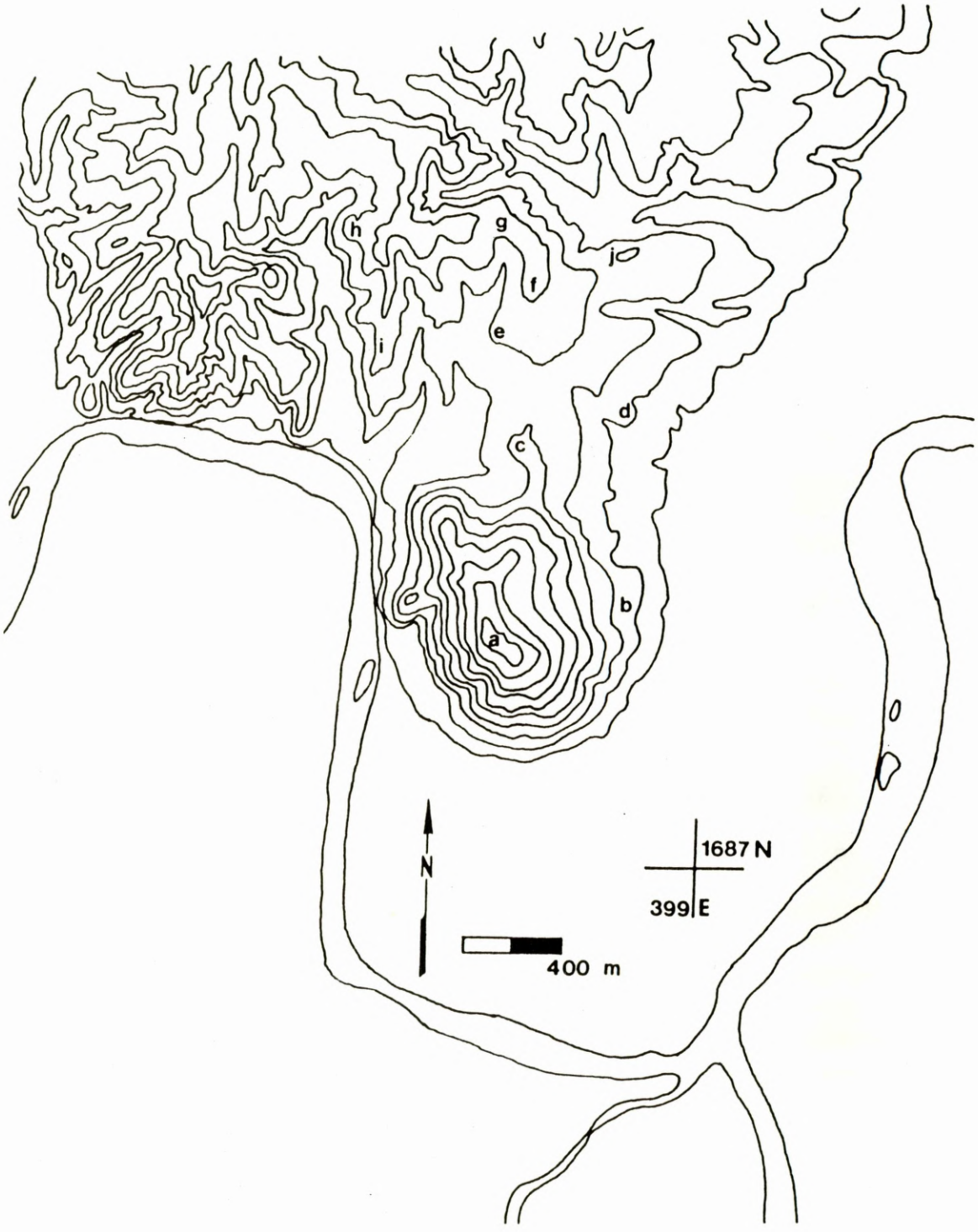

Fig. 2. The Cerro Palenque site zone. Major features of Cerro Palenque: (a) Late Classic center CR 44; (b) Terminal Classic minor centers CR 170, and (i) CR 171; (c) Terminal Classic center CR 157, ballcourt and (f) north edge of zone of monumental architecture; (d,e,h,j) CR 157 residential groups excavated.

Terminal Classic Ceramics of Cerro Palenque

Excavation in patio groups and major plazas of the two centers within the Cerro Palenque site zone produced ceramics from a number of contexts. The relative chronological placement of Cerro Palenque materials was based on a ceramic sequence (Joyce 1983a, 1985a:476-523) for the Chamelecon period (Late Formative to Early Classic) and Ulua period (Late to Terminal Classic) derived from examination of stratified ceramics excavated at Travesia (Joyce 1983b) and along the Ulua River (Pope 1985). While a detailed discussion of ceramic complexes prior to the Terminal Classic is beyond the scope of this paper, an outline of the nature of earlier ceramic complexes is essential background for understanding the Terminal Classic ceramics of the site.

CERAMIC SEQUENCE

Chamelecon period ceramics are distinguished by a high proportion of orange slipped bowl and jar forms with Usulutan technique resist decoration. In the early lots, these bowls have small solid nubbin feet and relatively simple rims. Later Chamelecon lots add hollow mammiform supports and incised, everted rims. Other minor surface treatments on Chamelecon period bowls are black slip with incised decoration, or red slip. In the latest part of the Chamelecon period, bowl and vase forms with orange slip and Usulutan decoration and additional red painted geometric designs are added. Chamelecon period jars also include unslipped, large collared jars; burnished jars with red bolstered rims and outflaring necks incised with sets of diagonal lines (not present in the early Chamelecon period lots); and neckless jars with zoned punctated and red painted decoration, applique fillets, or (in the latest Chamelecon period lots) red lip bands, and white washed upper bodies decorated in sets of alternating incised diagonal lines bounded by punctated lines.

The characteristics of the Chamelecon period include those described for the Ulua Bichrome complex at Santa Rita (Strong, Kidder, and Paul 1938:61-62, 119, 122). The complex is comparable to Eden period at Los Naranjos (Baudez and Becquelin 1973:103-105), and corresponds to Chabij and Bijac complexes of Copan (Viel 1983:535-536). Like these Honduran complexes, Chamelecon ceramics include analogues to the Izalco (Usulutan decorated), Guaymango (zoned decorated), and Pinos (black slipped) ceramic groups of the Caynac and Vec phases of Chalchuapa (Sharer 1978:36-38, 39-41, 27-28, 109-110). The red painted, Usulutan decorated, orange slipped ceramics are comparable to the Chilanga group of Chalchuapa, where they begin in Vec phase and wane in Xocco phase (Sharer 1978:47, 106). The Chilanga of Copan reportedly begins later, in early Acbi, but the red painted motif of Bijac complex type

Prospero Red-on-beige is identical to that of the Ulua valley type (Viel 1983:508, 517-518, Fig. Y-13d). An early date for the initial Chamelecon period is supported by the presence of types related to Chalchuapa's Guaymango group, which survives only into the early half of Caynac phase (Sharer 1978:27-28). On the whole, the evidence supports cross-dating of the early Chamelecon phase with Chabij and Bijac of Copan, and with Caynac and Vec of Chalchuapa, or between 150 BC and AD 400.

The beginning of Ulua period is marked by the development of Ulua Polychromes, specifically those labelled Dedalos class and Bandeja subclass by Viel (1978:171-180). These early Ulua Polychromes include complex vase forms without supports and tetrapod plates and dishes. Interiors have bright red bands or vertical "counter" motifs, as well as other less standardized designs. Exterior design motifs include series of black or red line glyphs, human heads, or profiled long-nosed monster ("Chac") masks in bands, and human figures with elaborate costumes and headdresses as main figures. Plates and dishes often have a guilloche or braid below a series of counters, with a single central animal or human figure. These initial Ulua Polychromes develop into the Santa Rita class (Viel 1978:181-202), which corresponds to the Mayoid Ulua Polychromes of Strong, Kidder, and Paul (1938), Glass (1966), and Stone (1957).

These early Ulua Polychromes accompany ceramics like those of the latest Chamelecon period lots. These include the local analogue to Chilanga group and the neckless, red rimmed jars with white washed, incised necks. In addition, tall flaring necked jars with similar red painted and incised surface treatment, or unslipped, burnished surface treatment, accompany early Ulua Polychromes. Large areas of red design in reserve on the body, and incised necks (often white washed) with series of vertical, wavy, and straight lightly incised lines (combed), quickly become standard on the necked, red-painted, incised jars.

These ceramics are dissimilar to contemporary complexes from other parts of the southeastern periphery, except in very broad outline. The Acbi complex of Copan has red on natural linear decoration on jars, as does Eden II of Los Naranjos (Baudez and Becquelin 1973:103, 235-240; Viel 1983:536-538). However, specific vessel forms and designs differ substantially, and lack the additional incised and applique decoration of Ulua types. Support for an Acbi equivalent date for the initial Ulua Polychromes may be provided by the presence of a very few examples of Ulua Polychrome cylinder vases with horizontal red bands below the lip and above the base, and diagonal red bands between these. The design fields were decorated in resist in several looted examples I observed in the

Ulua valley. An example in the Harvard University Peabody Museum collections from Santa Rita has a positive polychrome design, and another from the Ulua valley has the negative painted treatment. The band structure, and especially the use of resist, recalls the Acbi type Sovedeso of Copan (Viel 1983:517, Fig. Y-14g). Comb-incised lines combined with red painted decoration begin late in Acbi at Copan with the type Reina Incised, and continue throughout the succeeding Coner phase. The same kind of decoration is characteristic of the Yojoa phase type Masica Incised of Los Naranjos, which the stratigraphic chart indicates begins in late Eden II phase (Baudez and Becquelin 1973:296-299, Table 4). An approximate placement for the first part of the Ulua period based on these cross-ties would be between AD 400 and 650.

Later Ulua Polychromes, stratigraphically distinct, belong to the Travesia class of Viel (1978:219-228). Travesia polychromes, primarily hemispherical bowls, feature geometric bands including step fret and stepped pyramid motifs over profile black or frontal white monkeys. They are accompanied by some hemispherical bowls with red-on-orange narrow line designs including profile silhouette monkeys. These are close parallels to the Xocco phase type Suquiapa Red-on-orange of Chalchuapa (Sharer 1978:50-51). Unslipped flaring necked jars continue, with greater standardization of the two effigy-decorated vertical strap handles. Red painted and incised jars have flaring necks with everted rims, or vertical, flanged necks. The orientation of fine multiple-line incision on the necks of these jars becomes horizontal, more comparable to Masica, Reina, and Cruz Incised types of Copan and Los Naranjos than the earlier vertical orientation (Baudez and Becquelin 1973:298; Viel 1983:522, 525).

The use of monkey motifs on hemispherical bowls suggests comparison with the Gualpopa and Copador polychrome bowls of Copan and Chalchuapa of the Coner (AD 700-850) and late Xocco to Payu (AD 600-850) phases (Sharer 1978:51-52, 53-56; Viel 1983:519-522, 538). Travesia class polychromes also correspond to Mac phase polychromes of Altun Ha (AD 550-650; Pendergast 1979). These correspondences include the presence of three groups with geometric melon, geometric lattice, and profile black monkey themes in both Travesia class and Mac phase (Sheptak 1985). Viel (1978:277-286) placed Travesia class of the Ulua Polychromes from the mid-seventh to mid-eighth centuries, and I suggest a date between AD 650 and 750 for these ceramics.

The latest Ulua Polychromes from the Ulua valley continue some motifs and forms of Travesia class, but include the addition of Santana class polychrome cylinders

(Viel 1978:246-250). Both bowls and cylinders may have interior black bands. Santana polychromes, mostly cylinders, have a single geometric or glyphic band over detailed human figural scenes, jaguars, serpents, and serpents emerging from shells, most in reserve on a black ground. Comparison between these polychromes and Tepeu 2 (AD 700-830) cylinders has often been made (Glass 1966; Robinson 1978). The black background and single band construction recall polychromes of Kankin phase at Altun Ha (ca. AD 650-750, Pendergast 1979; Sheptak 1985). Both unslipped, flaring necked jars, and red slipped, tall necked, everted rim jars continue. Red painted, complex linear designs replace the incising on the neck of these jars in the southwest and central valley. At Cerro Palenque, red painted horizontal wavy line designs mimic the earlier incised designs. An end date no earlier than AD 830 for this phase is provided by the introduction of Fine Paste ceramics allied to Altar Fine Orange group in the succeeding Terminal Classic ceramic complex. The largest sample of Terminal Classic ceramics studied comes from the Cerro Palenque site zone.

TERMINAL CLASSIC CERAMICS OF CERRO PALENQUE

The Sample

Excavations in the Terminal Classic zone of Cerro Palenque were aimed primarily at investigating features of residential groups. The majority of the ceramics from these excavations came from two kinds of contexts: general lots including overburden and fall from architecture; and larger, apparently single episode deposits of ceramics, lithics, and other materials. These trash concentrations had well defined architectural associations. Four of the six trash concentrations identified were located on the summit of substructural platforms, outside the low cobble wall bases of the structure, on the side away from the patio and doorways. The structure walls in these cases defined rooms without built-in benches, but which in walled area are some of the largest rooms and structures from the site. In each of these cases, there was a taller structure with a built-in bench facing on the same patio. These patterns suggest that these concentrations were trash produced by secondary dwellings in the residential clusters.

At the same time, the main dwellings (with built-in benches) appear to lack such trash concentrations. The only exception to this is one of two unique trash concentrations excavated, located within a room with a bench, where ceramics extended from the floor over the surface of the bench. The room was one of two in the structure, sharing a common center wall but with entrances on opposite sides of the substructure, and each provided

with a stone bench. The occurrence of two benches in separate rooms in one structure was unique in the excavated sample. The ceramic concentration, crushed and overlain by cobbles from the collapsed superstructure, consisted of several whole jars and almost complete vessels, and included a whole, used stone mano. In addition, a circular area of hardened orange clay on the floor may indicate the use-location of a hearth or brazier. This unique constellation of features suggests the identification of the room and its contents as a food-preparation and storage area.

The final unique trash concentration excavated was located at the intersection of two low, wide cobble walls which ran outside the patio group. Walls defining patio groups or clusters have been reported from other sites, where they were also the locus of trash deposits (e.g., La Ceiba, Honduras; Benyo 1983). The unique status of this context in the excavated sample from Cerro Palenque is due primarily to the failure to detect these features consistently in mapping and to sample them in excavation. The composition of this concentration is similar to that of the trash deposits associated with secondary dwellings.

Attributes of the ceramics excavated at Cerro Palenque in 1982 and 1983 were recorded in 1983 in Honduras. Observations for each sherd were tabulated on computer data collection forms, using codes for variations in categories such as rim form, surface color, etc. Each rim was drawn at 1:1 scale, and labelled with the code number associated with its data on the coding forms. Body sherds were also tabulated with respect to observable attributes such as section of geometric solid, interior and exterior surface treatment, and ware (paste color, texture, core, temper). In all 30,689 sherds from Cerro Palenque were tabulated; 25,199 sherds stemmed from excavations in the Terminal Classic zone while the remainder were from CR 44. Approximately 8% by count of the CR 157 collection may be considered "diagnostic," e.g., rims, appendages, and complex body sherds.

Diagnostics from CR 157 included 706 rims, many from almost complete vessels, and the following discussion is based primarily on these. Table 1 lists the kinds of ceramics represented in the total sample of diagnostics (1575 sherds) from CR 157. In addition, several types of ceramic artifacts were recovered at the site. These included whistles (2), a stamp (1), figurines (2 whole, 4 large fragments), a 3-hole candelero, needle-shaped artifacts, and peculiar oval molded artifacts.

The distributions of recorded attributes were examined both manually and with the use of computer programs to detect the presence of recurrent associations of attributes. After a brief initial stage in which I

Table 1. Ceramic Diagnostics from CR 157

Description	Number
Unslipped collared jar rims	73
Unslipped flaring necked jar rims	103
Red slipped collared jar rims	34
Red slipped flaring necked jar rims	22
Other red slipped jar form rims	25
Bolstered rim red-on-natural jar rims	7
Everted rim red-on-natural jar rims	24
Wedge rim basin rims	76
Red slipped flaring wall bowl rims	101
Other miscellaneous rims	26
Censer plate and body rims and handles	17
Body sherds, human effigy censer	74
Other miscellaneous body sherds	130
Fine Paste rims and other diagnostics	199
Supports	103
Handles	374
Body sherds with secondary treatment	187
TOTAL	1575

manually plotted distributions of rim diameters for the form variants, I resorted to a program written for me by Rus Sheptak that allowed me to generate scattergrams from data while varying the inclusivity of intervals of variables measured as continuous (e.g., rim diameter). This allowed me to identify peaks (modes) of the continuous variables that I used to define intervals for use with SPSS on the University of Illinois CYBER system. The majority of the frequencies and cross-tabulations of attributes reported were generated by SPSS.

Terminal Classic Ceramics

The results of the analysis of ceramic attributes are summarized in Tables 2 and 3. The clustering of these attributes allowed the definition of a number of polythetic classes of ceramics in the Terminal Classic sample. Seven major classes of unslipped (15,333 body sherds, 61%), red slipped (5627 body sherds, 22%), and burnished fine paste (2096 body sherds, 8%) ceramics comprise the bulk of the sample, which includes the following forms: fine paste (temperless) burnished serving vessels; collared jars (red or unslipped); flaring necked jars (red or unslipped); bolstered rim basins (red-rimmed or unslipped); red slipped flaring walled bowls; vertical necked red painted jars; unslipped censers (three prong, spiked, and effigy forms).

Table 2. CR 157 Distribution of Form Class by Rim Diameter

Rim Diameter Interval	Form class basin	dish	round bowls	flaring bowls	out-turned rim bowls
0-6 cm					
7-12 cm	5	3	6	17	4
13-16 cm	10	3	28	22	3
17-18 cm	1	2	8	10	1
19-20 cm	6	6	6	16	2
21-22 cm	11	7	6	10	6
23-24 cm	6	14	5	14	2
25-26 cm	6	1	3	11	3
27-28 cm	2	1	3	20	4
29-30 cm	2				
31-32 cm	5	1		7	
33-35 cm	4			3	
36-39 cm	3			11	
40-44 cm	7			7	2
45-50 cm	3			2	

Based on 659 measurable rims. N=66 approximately 10%.

Rim Diameter Interval	Form class everted rim jars	col-lared jars	S-curve jars	flar-ing jars	verti-cal jars	neck-less jars
0-6 cm				1		3
7-12 cm	3	4	1	6	1	16
13-16 cm	5	16		13		3
17-18 cm	2	5	1	12	1	2
19-20 cm	1	15		11	1	1
21-22 cm	6	9		11	1	
23-24 cm	6	17	1	15	1	1
25-26 cm	2	13		8		1
27-28 cm	2	11		7		1
29-30 cm	3	12		3		
31-32 cm	2	12		10		
33-35 cm		6		3	2	
36-39 cm	1	6		2		
40-44 cm	2	3		1	2	
45-50 cm		1				

Table 3. CR 157 Distribution of Surface Treatment by Form

Cylindrical wedge rim basins/Vertical wall dishes

	Exterior									
Interior	1	2	3	12	5	6	8	7	9	10
1	10/18		0/3							
2	1/0	2/1				1/0				
3	0/1		4/10							
12	7/0			40/1						
6	2/0					2/1	0/4			
10										2/1

Surface treatment codes: (1) unslipped, (2) unslipped with red or orange paint, (3) self-slipped, (4) self-slipped with black paint, (5) brushed, (6) orange slipped, (7) Red and black (and other) paint on orange slip, (8) glossy and powdery red-orange slip, (9) red-brown slip, (10) smudged/black slipped, (12) buff slip and self-slip with red paint and/or incision, (13) cream slip with brown wash.

Round sided bowls

	Exterior									
Interior	1	2	3	12	5	6	8	7	9	10
1	17		2							
3	2		16*							
12	2			12						
6	4				1	4				
8							2			

* a single additional example has black paint on the exterior

Flaring wall bowls

	Exterior									
Interior	1	2	3	12	5	6	8	7	9	10
1	42									
2		1								
3	6		4							
12	6			19						
6	14									
8	2									
9	54									
10	1	1								1

Out-turned rim bowls/Restricted vessels *

Interior	Exterior 1	2	3	12	5	6	8	7	9	10
1	7/19									
3			3/6							
12	8/0			1/1						
6	1/0									
8	1/0									
9	1/0									
10	4/0									

* a single example has a white slip with brown wash

Everted rim/Vertical neck jars

Interior	Exterior 1	2	3	12	5	6	8	7	9	10
1	10/2					1/0				
12	1/0			17/7						
6						4/0				

Flaring necked jars

Interior	Exterior 1	2	3	12	5	6	8	7	9	10
1	73									
3	2		2							
12				37						
6						1				

Collared jars/concave necked jars

Interior	Exterior 1	2	3	12	5	6	8	7	9	10
1	101/2									
3	2/0		1/0							
12				31/1						
6						2/0				

Based on 673 of 706 rims; 67 rims = 10% of the sample

Minor groups (under 5% of the rim sherd sample; under 0.1% of body sherds) included glossy red-orange slip on tempered fine orange paste (bowl forms, with out-turned rim or bolstered lip); black paint on buff fine paste (one hemispherical bowl); polished dark gray slipped tempered fine paste (tripod dishes); and brown washed, cream slipped tempered fine olive paste (one effigy incurved rim bowl with tripod bulbous supports. All the minor group forms are serving vessels, and several are probably imports.[1]

Overall, continuity from the previous ceramic complex characterizes the storage and food preparation forms, including unslipped and red slipped bowls, basins and jars. Change is most sharply evident in serving vessels, where temperless, unslipped, burnished forms replace polychromes. The proportion of dishes to other serving vessel forms rose from the preceding Late Classic polychrome-dominated complex. Although the size of the sample is smaller, change is also evident in unslipped censer forms. Bolstered and wedge rims became more common in all form classes, rising from 5.4% in the Late Classic to 13.3% in the Terminal Classic at Cerro Palenque.

Collared, globular bodied jars without handles (20% of rim sherds), and tall flaring necked jars with pairs of handles between lip and shoulder (17% of rim sherds), are established forms that continue in the Terminal Classic ceramic complex (Fig. 3). Approximately 25% of these forms are red slipped in the Terminal Classic, a divergence from earlier periods in which these forms were invariably unslipped. The increase in red slip on Terminal Classic flaring necked jars at Cerro Palenque promotes a closer comparison with contemporary Tinaja Red jars of Seibal (Sabloff 1975:158-160), reinforced by a shared minor lip elaboration mode on the Terminal Classic flaring necked jars from Cerro Palenque, tick-notching. Ticked rims on unslipped and red slipped flaring necked jars are more common in contemporary Terminal Classic jars from the site of Las Flores Bolsa northeast on the Ulua River than at Cerro Palenque (Strong, Kidder, and Paul 1936; Joyce 1985b). This mode is also noted in a single, aberrant red jar in the Late Classic-Early Postclassic Magdalena phase of the middle Motagua valley in Guatemala (Smith and Kidder 1943:146, Fig. 24h). Unslipped or red-rimmed basins equipped with sets of four wide vertical strap handles rise from a Late Classic frequency of 2% to over 8%.

Jars with globular bodies, nearly vertical necks, and three rim treatments continue the Classic red painted jar tradition of the Ulua valley. A small number of examples with direct lip and sublabial flange continue a large handleless storage vessel form of the preceding complex. Everted rim (6% of the rim sherd sample; Fig. 4) and

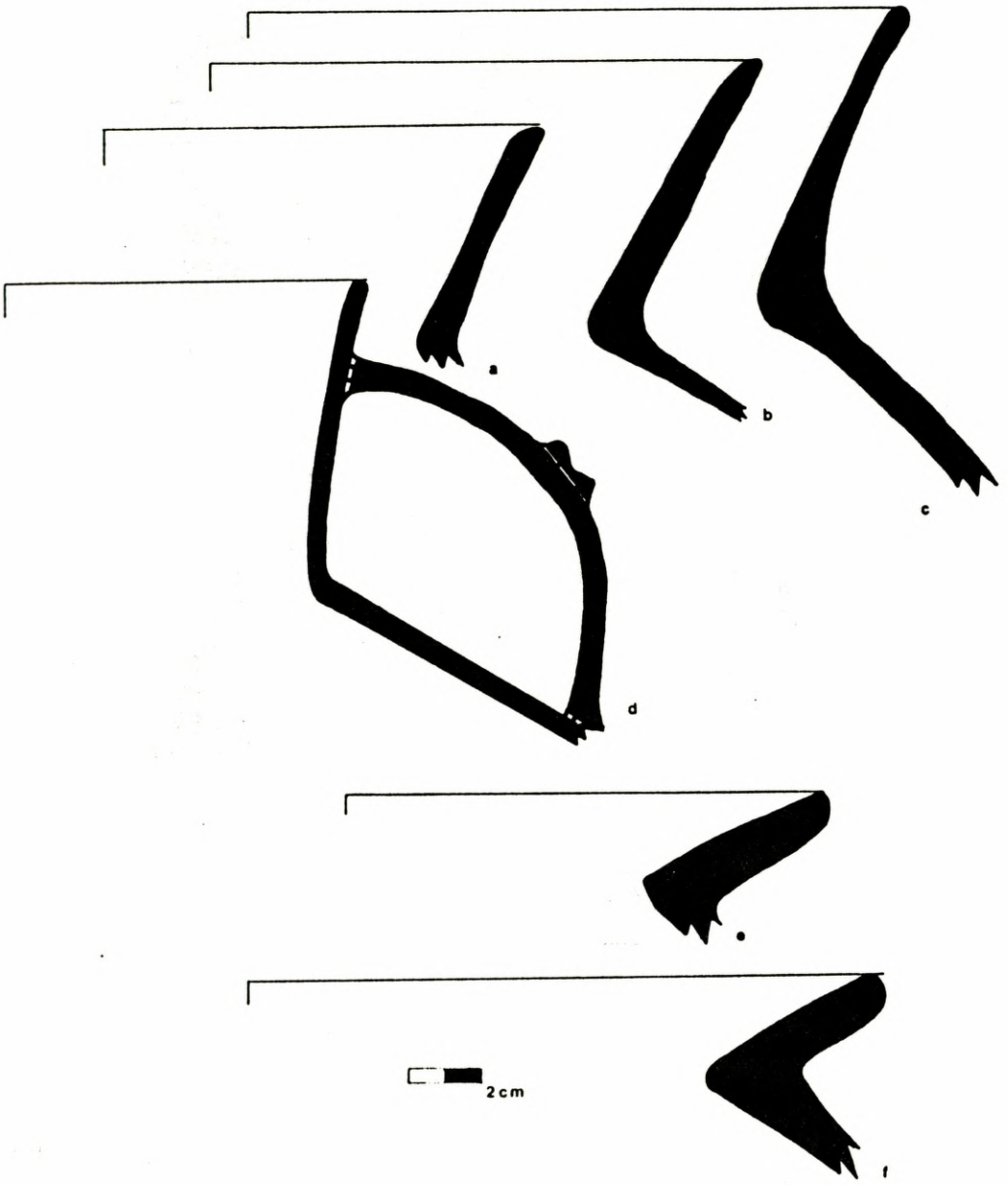

Fig. 3. (a to d) Flaring necked and (e, f) collared jars. (c,d) Red slipped and (a,b,e,f) unslipped.

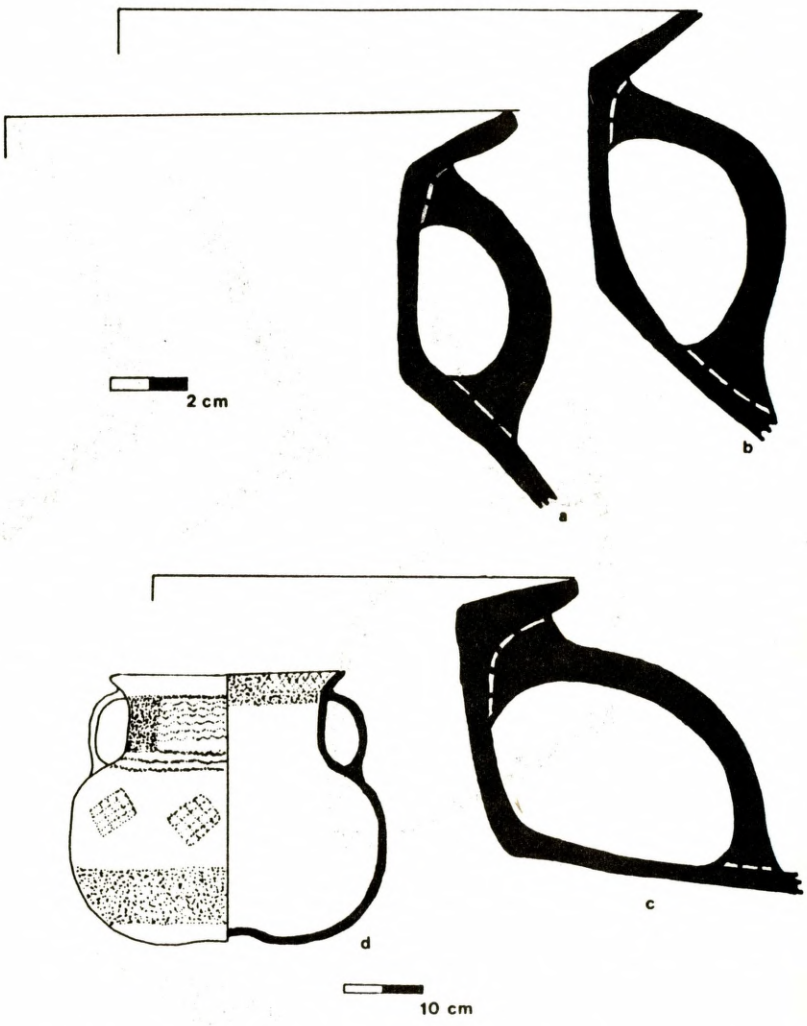

Fig. 4. Red-on-natural everted rim jars; rim profile (b) from whole vessel, reconstructed (d).

bolstered rim (1% of the rim sherd sample; Fig. 5) forms have pairs of vertical strap handles with an optional appliqued thumb-impressed pellet. The size distribution of these two forms remains the same as that of the Late Classic everted rim jars, with small (14 cm), medium (22-24 cm) and large (30-32 cm) variants. The two Terminal Classic jar forms differ in surface treatment and paste color. The everted rim forms feature linear red horizontal wavy lines on vessel necks, cross-hatching on rim interiors, and linear geometric motifs on bodies, on a gray or buff paste with a dark core. The bolstered rim forms, with a contrasting orange or brown paste without a marked core, have solid red slip on bodies, interior necks, and rims. Exterior necks may be solid red or unslipped. While at Cerro Palenque none of these forms

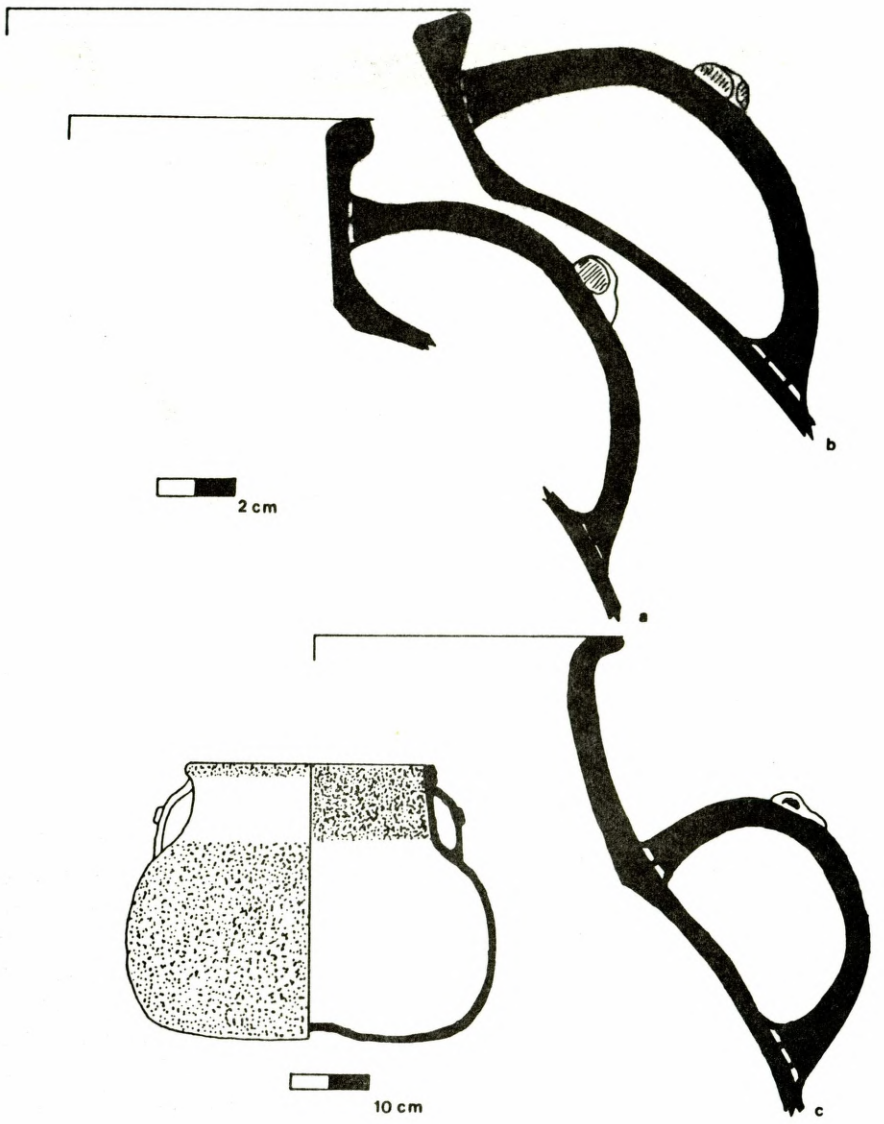

Fig. 5. Red-on-natural bolstered rim jars; note applique pellet on handles.

appears to be incised, contemporary bolstered rim jars at Las Flores Bolsa have horizontal sets of wavy incised lines on the unslipped exterior neck (Joyce 1985b).

Flaring wall bowl rims make up approximately 23% of the Terminal Classic rim sherds, comparable to the 25% of Late Classic rim sherds probably of this form. However, where the bulk of the Late Classic flaring wall bowls are complex polychrome or black slip incised types, the Terminal Classic sample is largely composed of simple red slipped forms. Red slipped, flaring wall bowls (Fig. 6) replace hemispherical, orange-slipped bowl forms of the Late Classic. These include both all-over slipped and

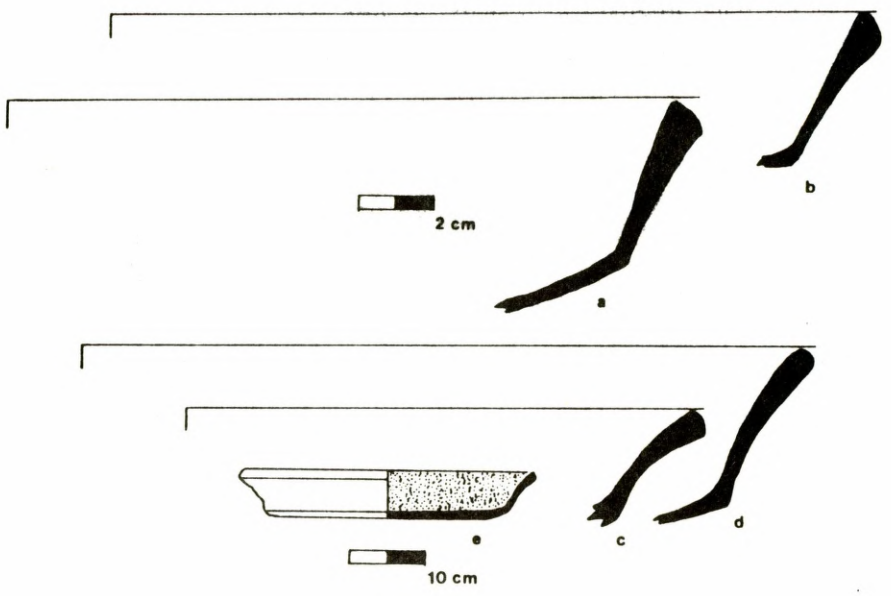

Fig. 6. Flaring wall bowls, exterior unslipped, smudged, interior red slipped, smudged.

interior slipped versions. A group of very wide (36 to 50 cm rim diameter) flaring wall bowls is added to a size distribution that otherwise parallels that of the Classic. The predominant red slipped bowl form of the Terminal Classic, accounting for all of these larger diameter bowls, has an externally thickened rim and marked basal break, a silhouette called S-shaped at Lubaantun and common in San Jose IV and V (Hammond 1975; Thompson 1939:127, 140, Fig. 93, "basal overlap dish," "outcurving bowl"). Most bowls of this form at Cerro Palenque have blackened exteriors, a red-brown paste, and brown or blackened red slip, and may have been deliberately smudged. Unlike the Belize examples, they lack ringstand supports, which become common only in the succeeding phase in the Ulua valley.

Wedge rim basins with four wide, vertical strap handles (Fig. 7) rise in frequency from 2% in Late Classic contexts to over 8% of all rims. The rim is usually red painted, and often the exterior wall is also red painted. There is often a single punctation near the base of the handle of these large basins. The wedge rim basin form recalls similar Cehpech forms from Yucatan (Smith 1971:70-71), but these differ in surface treatment, body form (cylindrical walled in the Ulua valley), and number and/or orientation of strap handles. More similar unslipped, orange and red wedge-rim, strap-handled forms are frequent in Shila phase (to AD 625) of Quelepa, El Salvador (Andrews 1976:71-95, 144-145).

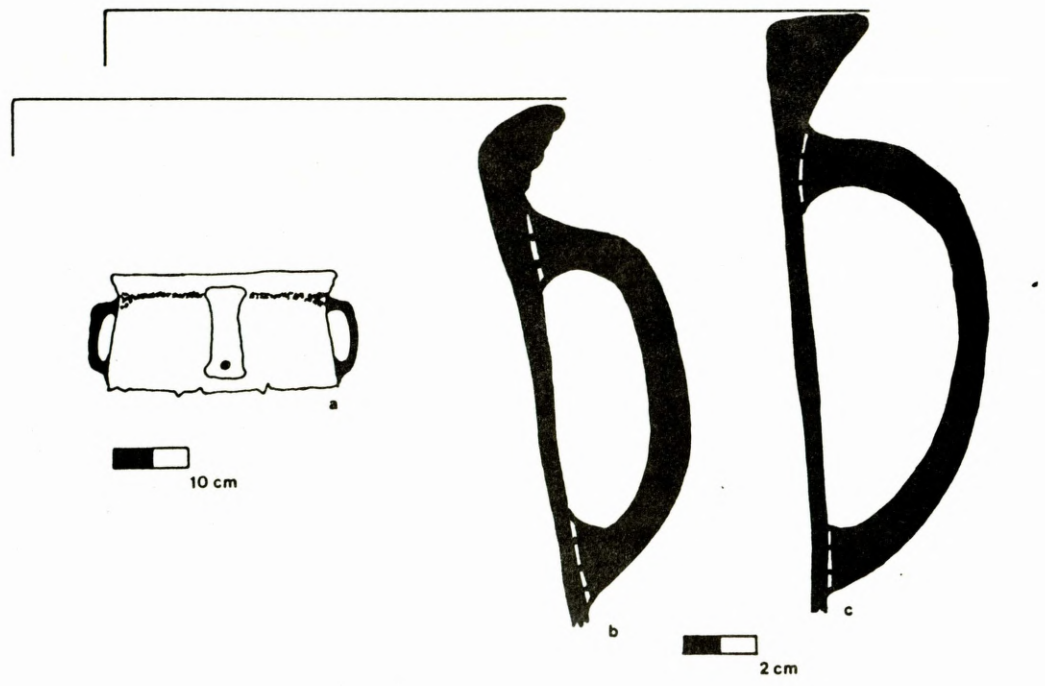

Fig. 7. Wedge rim basins, red rimmed.

These monochrome and unslipped jar and bowl forms, despite minor differences and shifts in surface color, clearly continue established types of the Late Classic Ulua valley. Major discontinuity is evident in the replacement of Ulua Polychrome serving vessel forms of the Late Classic with temperless, well burnished forms clearly related to Altar Fine Orange group of the western Maya lowlands. Late Ulua Polychromes are present at CR 157 only in construction fill from the ballcourt, where they are accompanied by more numerous fine paste sherds.

Burnished fine paste serving vessels (180 rims, 25% rim sample) range from gray-buff, through pink and light orange, to brown. The surface is well smoothed, matte, slightly darker than the core. A firing core is present in the gray to buff examples, and absent in the orange and brown examples. Attribute analysis indicates no consistent association of either of these colors with particular forms, decorative techniques or motifs, or other variables. Individual vessels may vary from orange to gray, leading to the inference that these colors are due to variations in firing. Consequently, these are grouped and discussed together. Major vessel forms include tripod dishes; small hemispherical direct rim,

vertical necked, or flaring necked bowls; and barrel shaped or pyriform vases, some with pedestal base.

Shallow dishes with vertical or incurving walls 3-5 cm deep with tripod oven supports predominate (Fig. 8). [2] They are smaller than their earlier Ulua Polychrome equivalents, ranging from 16 to 24 cm in rim diameter, rather than 18 to 28 cm. They are often incised on the interior base with a circumferential circle, divided in four quadrants, with parallel lines at right angles. The incision is usually sharp and deep. A single tripod dish has an outflaring wall and slightly bulbous tripod feet. The common dish form is also found in a sandy, tempered paste with glossy black interior and exterior slip, with a slightly smaller rim diameter (18 cm). The same pattern of temperless dishes and tempered, black slipped variants with slightly different diameters, was noted at Seibal in the Terminal Classic Bayal phase as well (Sabloff 1975:185).

Fine paste barrel shaped vases (4% of rims) 8 to 12 cm in rim diameter replace the somewhat larger (14 cm modal rim diameter) cylindrical polychrome vessels of the Late Classic (Fig. 9). Usually flat based, these barrel shaped vessels occasionally have a low pedestal base. Secondary surface treatment of these vases is limited to incised circumferential lines below the lip and above the widest portion of the body, incised geometric motifs in a single sublabial band, impressed motifs in the same area, and possibly parallel vertical grooves (false gadrooning). Incised and impressed motifs notably lack any apparent human or animal figures.

Round sided bowls fall from over 15% of the Late Classic sample to about 8% of the Terminal Classic sample. Like fine paste vases and dishes, fine paste bowls are somewhat smaller (diameters 8 to 16 cm) than preceding polychrome bowls (14 to 20 cm). Three rim forms are common on these extremely thin walled, flat based bowls; direct rims, short vertical necks, and short, flaring necks (Fig. 10). One direct rim round sided bowl with a single incised sublabial circumferential line was found cached with a matching barrel shaped vase. It is possible that some sherds of vertically grooved (false-gadrooned) bodies are from round sided bowls. Collared bowls occasionally have an incised line below the juncture of body and neck, or more rarely a single incised panel with a simple braid or guilloche motif.

Unslipped censers include continuations of established forms and innovations, again related to contemporary lowland Maya complexes. Portions of undecorated three-prong censer bodies and accompanying roughly scored plates continue Late Classic forms of the Ulua valley. Two decorated censer bodies, one a pedestal

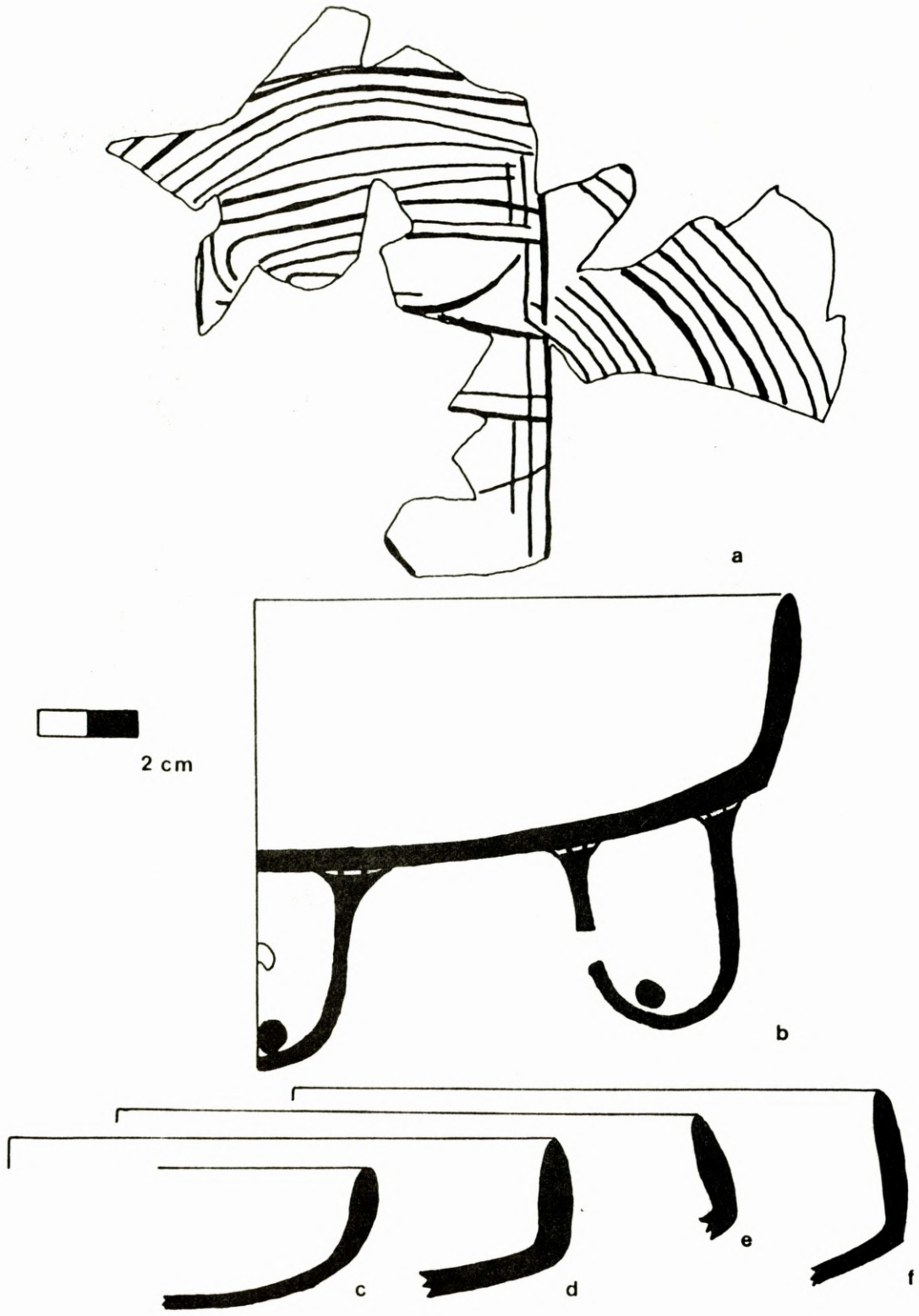

Fig. 8. Cerro Palenque fine paste dishes including incised interior base (a).

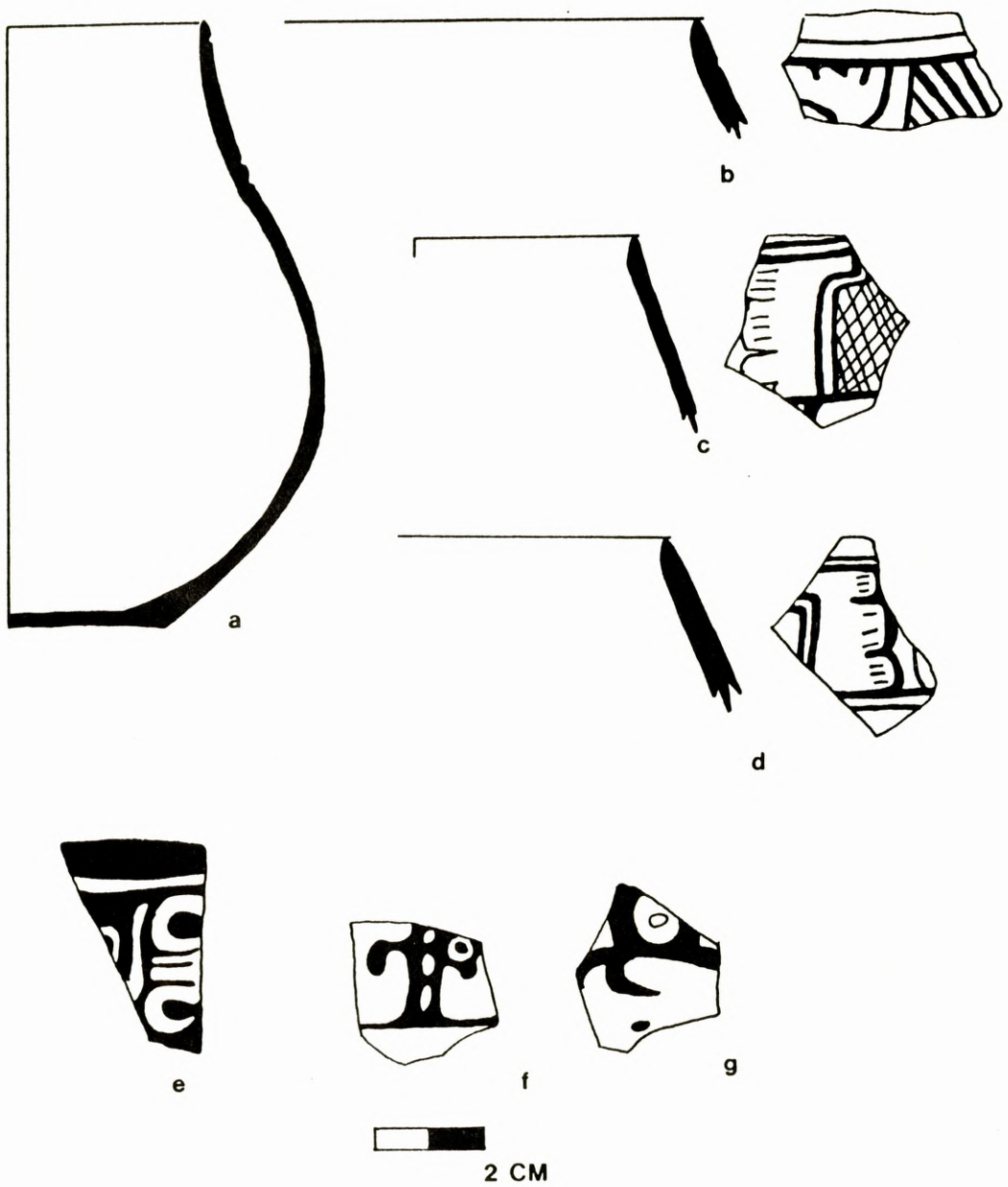

Fig. 9. Cerro Palenque fine paste vases including incised (c,d) and stamped (b,e,f,g) panels. Whole vessel (a) from a cache with bowl (Fig. 10d).

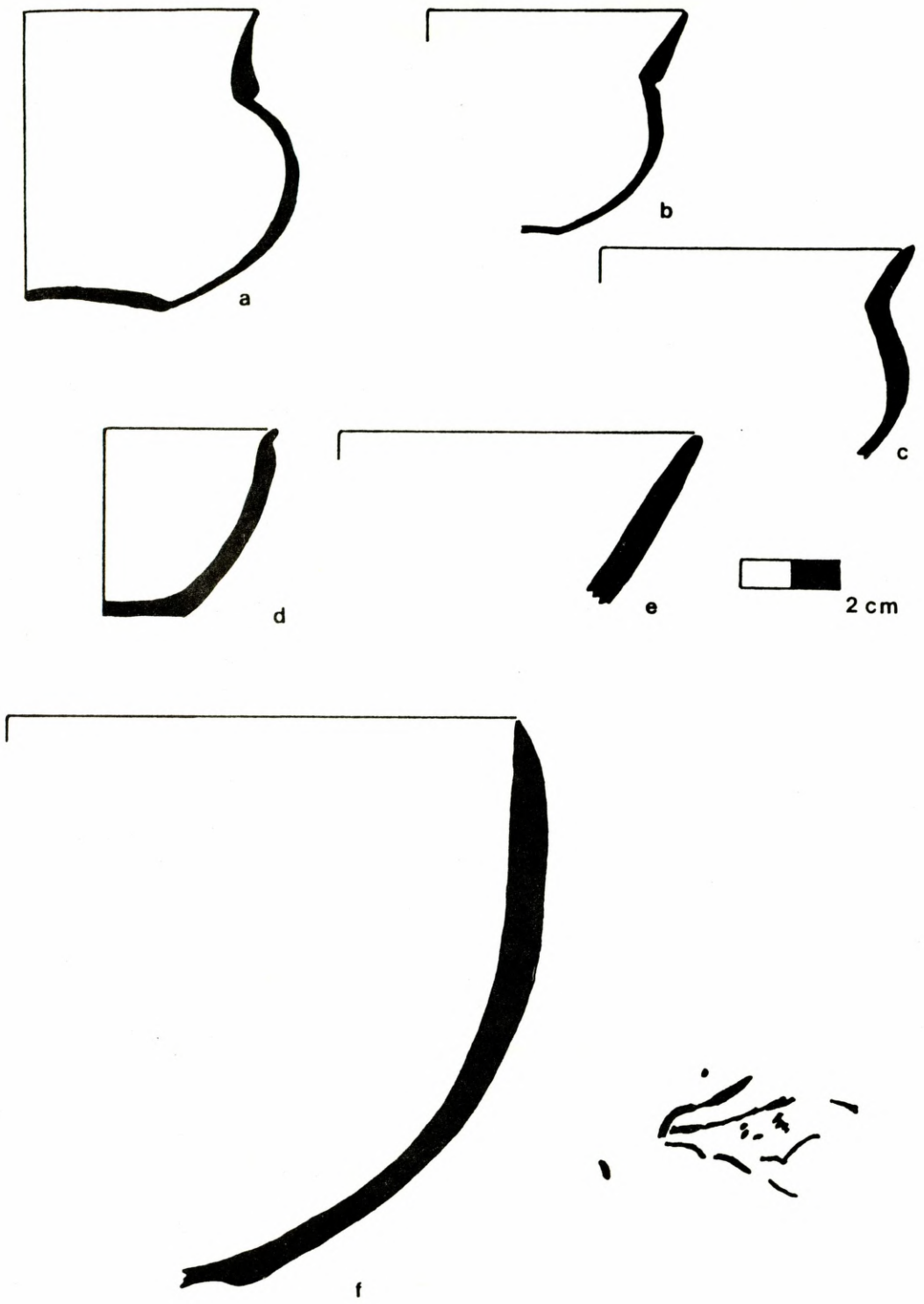

Fig. 10. (a-e) Cerro Palenque fine paste bowls: (a,b,c) collared bowls; (d) sublip incised cached bowl; (f) Probable Tekax Black-on-red bowl.

bowl form with low spikes like Miseria Applique of contemporary Seibal (Sabloff 1975:174-178), come from the fill of the major plaza and a non-domestic structure in a residential group. A molded human effigy censer, depicting a standing figure dressed in a feathered costume, was found in an isolated non-domestic structure that also produced the sole fragment of stone sculpture from the Terminal Classic site zone.

DISCUSSION

The Terminal Classic ceramics of the Ulua valley, as defined at Cerro Palenque and identified at Santa Rita and Travesia, are quite unlike those of other Honduran areas. In no other site in Honduras were polychrome ceramics replaced by Fine Orange related types. A few sherds of Fine Orange ceramics were included in the type Olingo Polychrome at Los Naranjos (Baudez and Becquelin 1973:291-293, Table 4; my identification, based on examination of type collection and comparison of description and illustrations, agrees with Sheehy's [1982] opinion). In addition, I have identified a few sherds of Ulua valley fine paste ceramics excavated at the site of Tres Piedras in the Naco valley by Strong, Kidder, and Paul (1938). Both of these sites are close to the periphery of the Ulua valley.

The lack of Ulua valley fine paste ceramics in other areas of Honduras is expected, given the limited points of comparison between the ceramics of the Ulua valley and other areas of Honduras at the end of the Classic period. While comb-incision continued to be employed at Los Naranjos and Copan (Baudez and Becquelin 1973: Table 4; Viel 1984:525; Longyear 1952:90), it was de-emphasized in the Ulua valley. Tall, flaring necked jar forms are rare in sites outside the Ulua valley. In the Terminal Classic, these local flaring necked jars are occasionally red slipped, and both red slipped and unslipped variants may have a ticked rim. These features of the Terminal Classic ceramics of Cerro Palenque are paralleled in contemporary ceramic complexes of the Maya lowlands, particularly the Bayal Boca ceramic complex of Seibal.

An unspecified variety of Tinaja Red (Sabloff 1975:158-160, Figs. 296-305) includes jars and bowls with forms like those of late Ulua valley red slipped types. Notched rims are noted on flaring necked jars in this variety (Sabloff 1975:158). The rim diameters of jars of this variety are smaller than those of Ulua valley analogues. Notched lips are also found at Seibal on red slipped flaring necked jars of Pantano Impressed: Stamped variety. Sabloff (1975:168) notes that although undoubtedly a local type, Pantano Impressed: Stamped

variety is probably related to stamped ceramics from Belize.

The spiked censers from Terminal Classic Cerro Palenque resemble the type Miseria Applique of Seibal (Sabloff 1975:174-176), a type also found in Terminal Classic context at Uaxactun, at Altar de Sacrificios (as Cedral Applique; Adams 1971:174-176), in Belize as part of the coeval Benque Viejo IV complex, and in the Motagua valley Magdalena complex.

The greatest parallels between the Terminal Classic complexes of Cerro Palenque and Seibal are in the fine paste ceramics of the two sites. Ulua valley examples, unlike Altar Fine Orange group, appear to be unslipped. The well burnished surface is usually a yellowish buff, but orange, gray, and pink colors are also found. Ulua valley fine paste ceramics parallel Altar group types Trapiche Incised: Decorated Interior variety (Sabloff 1975:194-195), Pabellon Modeled-carved (Sabloff 1975:195-198), and Cedro Gadrooned (Sabloff 1975:204). Fine gray paste materials in the Ulua valley do not have the particular distinctive attributes of Tres Naciones Fine Gray ceramic group (Sabloff 1975:211-213), for example solid tripod supports on dish forms.

The greatest parallel between the two areas is in the fine paste tripod dish with oven shaped supports, slightly incurved or vertical walls, and incised patterns on the interior base. The Ulua valley examples lack the exterior incising of Altar group dishes, and several other dish forms are found at Seibal. Interior base incised designs in Ulua fine paste are entirely geometric, while those of Seibal include fish and animals.

There are also parallels at Seibal for the flat bottomed, barrel shaped vases, and incurving, pedestal based vases of Cerro Palenque. The form is typical of Pabellon Modeled-carved at Seibal, and Ulua valley examples are also stamped or incised when decorated. However, the most diagnostic motifs of the Seibal type, human figures in confrontation, are absent from the Cerro Palenque sample. This divergence is reinforced by the absence of bowls with stamped or incised decoration at Cerro Palenque, the second form of the Pabellon Modeled-carved type at Seibal.

A final parallel with Altar Fine Orange types is the presence at Cerro Palenque of a number of body sherds with vertical grooved or false-gadrooned decoration. None of these sherds was associated with a rim, suggesting the possibility that they represent the lower portion of barrel shaped vases plain near the rim. The barrel shaped vase is one of the major forms of the type Cedro Gadrooned at Seibal.

Ulua valley fine paste includes one set of forms that appears to be absent from Seibal. These are small, round sided bowls with flaring or vertical collars. They often have a band at the junction between body and collar, with a series of oblique vertical incised lines forming a band of design.

In addition to these temperless forms, there is a small group of tempered, gray slipped sherds from tripod dishes with oven shaped supports and incised interior bases in the Ulua Terminal Classic. These resemble the types Achote Black and Cubeta Incised of Seibal (Sabloff 1975:181-185). Like Sabloff, I believe the black slipped, tempered dish form is a local imitation of a fine paste form.

Parallels between the ceramics of Seibal and the Terminal Classic Ulua valley are sufficiently strong to argue that the Rio Pasion region was the source of the impetus for adoption of fine paste ceramics to replace polychrome ceramics at Cerro Palenque. The differences between the two complexes suggest that Ulua valley fine paste ceramics were of local manufacture.

Continuity in local domestic ceramic traditions in the Terminal Classic Ulua valley supports the evidence of continuity in settlement patterns from the Late Classic (Joyce 1985a). Influence from the western Maya lowlands is limited to serving vessel and ritual censer forms. Continuing the Late Classic pattern of distribution of Ulua polychromes, fine paste serving vessels are found in residential groups of all ranks at Cerro Palenque. Fine paste ceramics of Cerro Palenque entirely lack the depictions of themes of militarism which in the Rio Pasion are taken as evidence of population intrusion.

Terminal Classic ceramics of the Ulua valley appear to be a deliberate adoption of the mode of form and surface treatment of Boca ceramic sphere ritual censer forms and serving vessels. The use of these ceramics constitutes a claim of identity with the Boca ceramic sphere on the part of the population of Cerro Palenque. A possible mechanism for the adoption of this ceramic model is through an exchange network linking the elite of Cerro Palenque with the elite of the western Maya lowlands (Joyce 1986).

The route of contact between the two areas, based in part on earlier patterns of interaction, may have been through Belize, perhaps the San Jose area. San Jose V ceramics include temperless sherds typologically assignable to Pabellon Modeled-carved type as well as tempered ceramics in the same suite of forms (dishes and barrel shaped vases) as are found at Seibal and in the

Ulua valley (Thompson 1939:143-150). Contemporary domestic ceramics of San Jose include flaring necked, red slipped jars, as well as red slipped composite silhouette bowls which are strikingly similar in profile to those of the Terminal Classic Ulua valley. Spiked censer forms are part of this complex as well (Thompson 1939:125). Excavations at San Jose yielded six sherds of Ulua marble vessels from San Jose V contexts (Thompson 1939:167). Ulua marble vessels are also known from Tepeu 3 contexts at Uaxactun and from an equivalent time frame at Altun Ha (Kidder 1947:36-37, Fig. 20; Pendergast 1967). A Terminal Classic route of communication between the Pasion and the Ulua valleys through Belize seems probable (Joyce 1986; Sheptak 1985).

CONCLUSION

Terminal Classic ceramics of the Ulua valley continued established traditions of domestic vessel forms and surface treatments while radically altering form and surface treatment of serving vessels and censers for public ritual use. New features of Terminal Classic ceramics of Cerro Palenque are close to features of the Boca ceramic sphere, especially as defined at Seibal. Differences from Bayal phase ceramics suggest that Terminal Classic fine paste ceramics at Cerro Palenque represent a deliberate adoption by local populations of the model of Boca sphere ceramics, incorporating new features in cultural practices which show little change from earlier periods. In particular, the motifs in ceramics and stone carving of the Rio Pasion that have been used to suggest that militarism was involved in the introduction of Fine Orange ceramics in the Terminal Classic are absent from Ulua valley fine paste. Ulua valley fine paste ceramics are found in residential debris throughout the site at Cerro Palenque, and are not restricted to a single zone. There is no basis to suggest that an intrusive population was responsible for the introduction of fine paste ceramics at Cerro Palenque.

Lacking evidence of militarism and an intrusive population, an alternative explanation is necessary for the adoption of public ritual use censer and serving vessels from the western Maya lowlands by the Terminal Classic population of Cerro Palenque. The explanation suggested is deliberate identification with high status exchange partners by Ulua valley elite, a long-standing process producing networks of interaction. Earlier networks linked specific Ulua valley elite with those of Belize lowland Maya sites (Joyce 1986; Sheptak 1985). The Terminal Classic interaction network with the Rio Pasion was similar in kind, but developed as a more exclusive relationship between Cerro Palenque and a Rio Pasion center, possibly Seibal. While this initially allowed the

development of Cerro Palenque as a unique primate center in the Ulua valley, ultimately the collapse of Rio Pasion centers broke the tenuous network and left Cerro Palenque to decline (Joyce 1985a).

Acknowledgments

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Notes

[1] Among these minority ceramics are single examples of unique forms, tentatively identified as Teabo Red group (Puuc Red ware; Smith 1971:27) of northeastern Yucatan, and Guayabal Modeled-carved of Quelepa, El Salvador (Andrews 1976:96-123, 147). The Teabo Red identification was suggested by Fernando Robles (personal communication), and confirmed by comparison with Harvard Peabody Museum collections. The single hemispherical, flat based bowl, with black linear exterior painted designs (Fig. 10f), is assigned to the type Tekax Black-on-red. Robles suggests that the relatively brown surface color of this piece is more common in eastern Yucatan than farther west.

The single vessel identified as Guayabal Modeled-carved is a unique incurving bowl or vase with slightly bulbous tripod supports. It has a compact fine tan paste distinct from the temperless local fine paste. A contrasting white slip covers the entire exterior and interior. Modeled effigy facial features on the exterior (including eyebrows, eyes, nose, mouth, and ears) appear to have a brown wash.

[2] Ulua valley fine paste ceramics are more closely related to Altar Fine Orange than to Balancan Fine Orange through shared vessel forms and range of surface modification techniques. Nonetheless, Fernando Robles commented that sherds of Ulua valley fine paste which were bright orange were within the range he recognized for Balancan Fine Orange. He also noted that the predominant vertical to incurved wall tripod dish form of Ulua valley

fine paste was common in types from Quintana Roo and eastern Yucatan, as well as along the Rio Pasion (e.g., Kohunlich; Zaragoza de Davila 1981:219, Fig. 20).

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Special Topics in Maya Pottery Studies

17

Ceramic Systems: Facilitating Comparison in Type-Variety Analysis

John S. Henderson and Ricardo Agurcia F.

The proliferation of archaeological research programs in Honduras during the last decade has brought about an avalanche of new data. To cope with the information explosion, the Instituto Hondureno de Antropologia e Historia has organized a series of Seminarios de Arqueologia Hondureno designed to enhance the compatibility of analytical methods and reporting conventions employed by the many investigators now active in the republic as well as to foster timely exchange of interim results. The third Seminario, held in the Caribbean port of Tela in 1985, focused on the systematics of ceramic analysis and description (Agurcia and Henderson 1986). The agreements reached there, and refined at the Honduran Ceramic Workshop in 1986, represent a major advance in standardization that will facilitate comparison and synthesis, and simplify the administrative problems faced by the Instituto in complying with its obligation to make the materials and information produced by recent field work accessible to scholars and the general public. These improvements in systematics are perfectly applicable elsewhere in eastern Mesoamerica.

Recent studies of Honduran ceramic assemblages (e.g., Baudez 1966; Baudez and Becquelin 1973; Viel 1978, 1983; Kennedy 1980; Joyce 1985) have been structured by a variety of conceptual frameworks. Investigators trained outside the United States have not been quick to adopt the type-variety system of ceramic analysis long established in eastern Mesoamerica (Gifford 1960; Smith et al. 1960; Willey et al. 1967). Several investigators have preferred to emphasize modal level analyses to a greater degree than is consistent with standard type-variety systematics.

Type-variety concepts do, however, constitute the core of most analyses of Honduran ceramics now in progress, and virtually all incorporate some facet of the

system. As its proponents have always emphasized, a type-variety framework for description, tabulation, and basic analysis of ceramics ensures sufficient uniformity in the structure of ceramic reports to facilitate general comparison and synthesis. This degree of standardization does not constrain the freedom of analysts to emphasize the methods that seem most appropriate to the particular assemblages and problems at hand, so that higher-level analyses often employ other, complementary conceptual frameworks.

CERAMIC SYSTEMS

Specifically focused comparison, however, is another matter. Even dedicated practitioners of type-variety analysis have substantial differences of opinion about the aspects of ceramic variability that should be used to define taxa at various levels and about the degree of variability permissible at each level. Type-variety frameworks vary widely in the roles assigned to technology, form, surface treatment, and decoration in the definition of groups, types, and varieties. The use of technological factors--paste, temper, firing, and other basic characteristics of manufacture--is an area of particular diversity (Rice 1976). One result of these disparities is that it can be very difficult to determine, even very generally, the degree of similarity among particular types and varieties from different regions.

Resurrecting the concept of ceramic systems--originally proposed by Gifford (1960, 1976:12), but with few exceptions (Sharer and Gifford 1970) never elaborated by students of Maya ceramics--provides a tool for circumventing the inhibiting effect of these inconsistencies on comparative analysis. A ceramic system, as defined here, consists of homologous types that are related in terms of aspects of decoration: design elements, element execution, design field layout, and the like. Systems that embrace a variety of decorative techniques are partitioned into subsystems whose constituent types represent a single type-class. The types comprising a ceramic system represent a continuous temporal span and, normally, a continuous spatial distribution.

Gifford (1976:12) emphasized the potential of ceramic systems with limited time depth for recognizing synchronic relationships, particularly episodes of diffusion. He stressed the contrast between ceramic systems and ceramic sequences, which are essentially diachronic constructs consisting of developmentally related types. The refined ceramic system concept recognizes the likelihood that many ceramic systems will have substantial time depth; this is particularly true along the southeastern fringe of Mesoamerica, where many widely distributed types exhibit

considerable temporal persistence.

Whereas Gifford (1976:7-12) reserved the definition of ceramic systems for a separate, integrative stage of analysis, it is more appropriate to include ceramic system assignments as part of the basic type description, emphasizing the importance of comparison at an early stage of analysis. Assigning a type to a ceramic system obliges the analyst to record his or her assessment of its similarities with types from nearby sites and adjacent regions explicitly and systematically. This procedure will also promote consistency in the definition of types and varieties.

Because technology, form, surface treatment, and decoration are all logically independent sets of variables, even perfect standardization of their analytical roles is unlikely to produce taxa that do not cut across patterns of similarity among ceramic assemblages. Ceramic systems provide a framework for highlighting these relationships that may otherwise be obscured. Ceramic systems, focusing on surface treatment and decoration rather than technological and compositional features, have the particular advantage of de-emphasizing variability based solely on the nature of locally available resources; they facilitate the recognition of relationships at the conceptual level.

Ceramic groups, in contrast, are at once much more variable in terms of surface treatment and decoration and much more restricted in that constituent types must represent a single ware. Ceramic systems permit a much more sensitive assessment of ceramic similarity than either horizon styles, which are defined in terms of widely distributed modes that may be only loosely associated, or ceramic spheres, which are based on aggregate similarities at the type level among entire ceramic complexes. At the same time, ceramic systems provide a systematic basis for the recognition of ceramic spheres. Plotting the overlap in distribution of the ceramic systems that include a majority of common types in a series of ceramic complexes would be a simple way of defining a ceramic sphere.

Table 1 presents a series of specific ceramic systems proposed for Honduras and adjacent areas. The list is by no means exhaustive; system definitions are subject to revision (Urban and Schortman, this volume), and some type assignments are provisional.

The process of defining these ceramic systems highlights anomalies in existing definitions that have tended to obscure cultural connections. The relationships among the types comprising the Copador and Chamelecon ceramic systems provide an instructive example. Gualpopa

Table 1. Tentative Ceramic Systems for Honduras

Ceramic Systems	Sites or Regions: Chalchuapa	Copan	Middle Ulua	V. de Naco	V. de Sula	Lake Yojoa
Ulua Polychrome		(Ulua)	Ulua San Gaspar (Chichipate)	(Ulua) (Bold Geom. Sula)	Ulua Bold Geom./ Sula	Babilonia Chichipate (Olingo)
Copador Polychrome	Copador Arambala *Gualpopa	Copador *Gualpopa *Caterpillar (Arambala)	Copador Copador: Non-spec.	(Copador)	(Copador)	(Copador)
Chamelecon Polychrome	*Gualpopa	*Gualpopa *Caterpillar	(Chamelecon)	Chamelecon	"Chasnigua	
Chilanga Trichrome (Red-on-Orange w/ Usulutan	Chilanga	Chilanga Arturo	Chilanga (Arturo)	"Chamelecon"	"Chasnigua"	Vijagual
Chasnigua Dichrome (Red-on-Orange)		"red-on-orange" (Cancique)	*Calix (Cancique) (Loma Larga)	"Chamelecon"	"Chasnigua"	(Cancique)
Chinacla Monochrome (Orange)		"orange-wash" Burdalu Surlo	Aguagua *Calix	"Chamelecon" Sirena	"Chasnigua" "Santa Elena"	
Magdalena Red-on-Natural		Prospero	La Isla Taxiguat Santa Rosita	Magdalena	Marimba	Chinda (Meambar) (Urupa)
Masica Incised		Reina Cruz Cocorico Cementerio	Masica Fronton Cececapa Tamaguapa Maroncho	"Magda-Fronton	"Marimba"	Masica (Carreto) (Candungo) (Tiligua)
Sumpul Dichrome (orange "slip" Usulutan)	Izalco Tazulate Tutunichapa Jayaque	Izalco	Izalco		"Santa Elena"	Muerdalo

Table 1, cont'd.

Ceramic System	Chalchuapa	Copan	Middle Ulua	V. de Naco	V. de Sula	Lake Yojoa
Sulaco Dichrome (double "slip" Usul., orange over white)	Puxtla Jicalapa Cuisnahuat Azacualpa Tepecoyo				(Bolo)	Bolo
Goascoran Zoned Dichrome (zones of contrasting color sep. by incision or fillet)	Angiatu Picacho Chucuyo Olomega	Pacheco "red-on-brown"				
Gualcarque Zoned Plastic (zones of contrasting surf. treatment sep. by incision or fillet)	Colon Lamatepeque Cuyan Chapia Tehuiste	Hijole			"Mico Quemado"	Bogran Tepemechin
Biblio. citations	Sharer 1978	Longyear 1952 Viel 1983	Urban and Schortman, this vol.	Henderson et al. 1979; Urban 1986		Baudez & Becquelin 1973

( ) very minor representation, often as exchange item
" " working type designation
* assignment split among two or more systems

Polychrome--initially defined at Chalchuapa (Sharer 1978:51-52) and subsequently recognized at Copan (Viel 1983:519-520)--has often been likened to Copador Polychrome. In terms of decoration, a few Gualpopa specimens (especially at Chalchuapa) do closely resemble Copador Polychromes, albeit without specular red paint; most Gualpopa vessels, however, are much more like Chamelecon Red-and-black-on-orange vessels from the Naco and Sula valleys. The Caterpillar Policromo type at Copan (Viel 1983:519) consists of tripod plates with painted decoration like that of Gualpopa Polychrome bowls and jars. The decoration on some of these plates, which may bear specular red paint, is similar to that of Copador Polychromes, but many (or most) Caterpillar vessels closely resemble Chamelecon Red-and-black-on-orange plates. Caterpillar and Gualpopa vessels at Copan contrast in paste as well as in form and will ultimately be assigned to different ceramic groups, whereas homologous vessels in the Naco valley, with no corresponding compositional differences, are assigned to a single Chamelecon Red-and-black-on-orange type. The recognition of a Chamelecon Polychrome ceramic system calls attention to similarities among Classic period ceramic assemblages from Chalchuapa, Copan, the Naco valley, and the Sula valley. These similarities would otherwise be obscured by regional variability in patterns of correlation among factors relating to technology, form, surface treatment, and decoration, and by the variable taxonomic roles assigned to these classes of variables in each regional system of classification.

CONCLUSION

Refinement of the systematics of ceramic analysis resulting from the 1985 Tela Seminario and the 1986 Honduran Ceramic Workshop will promote consistency in fundamental reporting of data from Honduras. The ceramic system concept is of particularly broad interest. It is a powerful tool for comparative analysis with great potential to facilitate synthetic approaches to the massive quantities of ceramic data available from eastern Mesoamerica (Urban and Schortman, this volume). Wide adoption of ceramic systems as a standard aspect of type-variety analysis would contribute enormously to our understanding of relationships among the Maya and their neighbors.

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Late Preclassic Development of Unslipped Pottery in the Maya Lowlands: The Evidence from El Mirador

Richard D. Hansen and Donald W. Forsyth

Unslipped plain and unslipped striated ceramics are among the more common types occurring in ceramic assemblages in the Maya lowlands. However, in spite of their frequency in Maya assemblages, little attention has been given to the analysis and stratigraphic context of these ceramics relative to that given slipped and decorated pottery. Those analyses that have attempted to deal with the unslipped pottery have been continually plagued by apparent inconsistencies in diagnostic modal attributes, inconsistencies in the assignment of established types to chronological phases, and frustration with the general confusion that exists in the description of unslipped ceramics in the Maya lowlands (Pring 1977:63-64, 232).

It appears that the inability to defince consistent, chronologically significant boundaries or diagnostics throughout the Preclassic portion of the lowland sequence has caused analysts either to lump these ceramics into inclusive types that persist through a lengthy period of time (e.g., Adams [1971] and Culbert's [in prep.] definition of Achiotes Unslipped throughout the whole Preclassic sequence) or to arbitrarily define separate types (and even separate ceramic groups) on the basis of association with slipped ceramics (e.g., Smith and Gifford's [1966] separation of Achiotes and Paila Unslipped). This situation probably arises because the major interest in ceramic analysis for many archaeologists is chronological control and intersite comparison. The primary characteristics for establishing such controls using ceramics have been surface finish and vessel form. However, unslipped ceramics, unlike the slipped pottery, are generally dominated by a single overall form--necked jars--and the surface finish characteristics of the unslipped pottery have not been sufficiently distinctive to permit fine-grained chronological or regional

differentiation. In short, unslipped ceramics have received relatively little attention by ceramicists because analysts have apparently not been able to observe chronologically significant diagnostics that would make them useful in periodization. As a result, unslipped ceramics have generally been classified on the basis of their association with slipped ceramics rather than on the basis of their own modal characteristics.

UNSLIPPED PRECLASSIC CERAMICS IN THE MAYA LOWLANDS

Unslipped ceramics appear with the earliest ceramics recovered from the Maya lowlands. The earliest types are unslipped plain or pattern-burnished vessels of the Copetilla ceramic group in the Swasey and Bladen complexes at Cuello (Pring 1977:88-103; Kosakowsky 1983:96-104). This pottery, however, differs from later unslipped ceramics in bearing well-smoothed surfaces (Pring 1977:88-103; Kosakowsky 1983:96-104).

Apart from the early pottery of northern Belize, and perhaps Yucatan (Brainerd 1958:24), the earliest unslipped ceramics from the lowlands appear to be unslipped plain, roughly smoothed pottery of Uaxactun Unslipped ware. In Peten this is generally classified as Achiotes Unslipped (Smith and Gifford 1966:170; Adams 1971:18-19; Sabloff 1975:46-47; Ball 1977a:8; Rice 1979:13, 23; Chase 1984:27; Culbert, in prep.:El4,Tz9), although other types, such as Palma Daub (Smith and Gifford 1966:170; Gifford 1976:69-71; Rice 1979:13; Chase 1984:27; Culbert, in prep.:Tz12), and Canhel Unslipped (Culbert, in prep.:El6) also occur. Uaxactun Unslipped ware apparently begins in Xe horizon times, but continues into the Mamom horizon. In Belize the situation is somewhat more complex, although Richardson Peak Unslipped (Pring 1977:156-160; Kosakowsky 1983:207-211) from northern Belize appears to compare favorably with Achiotes Unslipped from central Peten in terms of surface finish and variety of forms. However, Jocote Orange-brown, reported from Barton Ramie, remains somewhat anomalous (Gifford 1976:67-68).

Unslipped plain ceramics apparently continued into Late Preclassic times with relatively few changes in general form and surface finish. However, the relative inattention given to unslipped ceramics in general has led to considerable confusion in terms of the type-variety taxonomic structure of these ceramics. Smith and Gifford (1966:170-172) made the first systematic attempt to apply the type-variety system (Gifford 1976) to Maya ceramics. Thus they classified the Uaxactun pottery previously reported by Smith (1955) into types, varieties, groups, wares, and complexes. The ceramic complexes were

essentially equivalent to the phases defined in Smith's 1955 report. On theoretical grounds (Gifford 1963:24), the types and groups defined were held to be unique to any given complex in almost every case (the Late Classic unslipped pottery was an exception). Thus the unslipped plain pottery of the Chicanel complex (Paila Unslipped) was distinguished typologically from that of the Mamom horizon (Achiotes Unslipped), although it was not specified what combination of attributes separated them from one another. In short, unslipped plain ceramics found with Mamom slipped ceramics were classified as Achiotes, and those found with Chicanel slipped ceramics were Paila. Some analysts (e.g., Chase 1984) have continued this pattern. Gifford (1976) also differentiated Jenny Creek and Barton Creek unslipped ceramics on a typological level. Others, such as Adams (1971) and Culbert (in prep.), have chosen to stress what they apparently regard as typological continuity in unslipped plain ceramics by using Achiotes Unslipped for both the Mamom and Chicanel horizon examples. An analogous pattern is seen in northern Belize with the Richardson Peak Unslipped type (Pring 1977; Kosakowsky 1983). In some cases these differing approaches may reflect real differences between the content of the collections being examined. However, in other cases it is apparently the result of insufficient attention being paid to the unslipped plain ceramics to determine whether there might be attributes that consistently differentiate the early from the late examples on a typological basis. In some cases, at least (e.g., Richardson Peak Unslipped), such differences apparently do not exist (Kosakowsky 1983:210-211).

A somewhat different pattern emerges with respect to unslipped striated pottery. There appears to be a great deal of variation across the Maya lowlands with respect to the occurrence of this kind of surface finish. In northern Belize, for example, unslipped striated ceramics appear quite late in the Preclassic sequence. At Cuello they first occur late in the Cocos (Chicanel horizon) complex (Pring 1977:65; Kosakowsky 1983:267). At Cerros (Robertson-Freidel 1980:109-110; Robertson 1983:110), Sapote Striated occurs in very small quantities in early Chicanel (Ixtabai complex) times, but becomes quantitatively important only later in the sequence (C'oh and Tulix complexes). However, striation on unslipped surfaces does occur in some quantity in early Chicanel times (Robertson-Freidel 1980:40-47). On the other hand, unslipped striated pottery is quite common in Jenny Creek deposits at Barton Ramie (Gifford 1976:71-73) and continues into the Late Preclassic with the appearance of Sapote Striated (Gifford 1976:106-108).

In Peten and adjoining regions striated ceramics tend to occur somewhat later than unslipped plain pottery, but

considerably earlier than in northern Belize. Striation occurs in the San Felix complex at Altar de Sacrificios (Adams 1971:19), in Eb times at Tikal (Culbert, in prep.:E16), in the Acachen complex at Becan (Ball 1977a:10, 13) and, although not previously reported, at Uaxactun in the Mamom complex (personal observation, Peabody Museum and Guatemala City; also see Culbert, in prep.:E16). At the latter site, however, it is apparently not common. On the other hand, striated ceramics do not seem to appear in the sequence at Seibal until Chicanel times (Sabloff 1975). In much of the northern lowlands unslipped striated ceramics appear at least as early as unslipped plain pottery (Ball 1977b:104; Forsyth 1983:29, 31).

El Mirador seems to follow the general Peten pattern of striated ceramics appearing early in the Preclassic sequence at the site. But the lack of pure deposits of Middle Preclassic ceramics precludes a clear determination of just when such pottery began to be used. (Middle Preclassic deposits were recovered during the 1982 season, but were not available to us at the time of this study.)

Whatever the actual situation at El Mirador and other sites, it is clear that the traditional type-variety typology as it has been applied to unslipped ceramics is of little use in specifying chronologically significant differences in the unslipped pottery at the site. This paper is an attempt to investigate the development of unslipped pottery from Late Preclassic contexts recovered from well-stratified deposits at El Mirador, Guatemala, to determine if significant changes in unslipped pottery occurred during the development of the Late Preclassic.

CONTEXTS AND METHODS

El Mirador is located in north-central Peten approximately 100 km directly north of the modern town of Flores (Fig. 1). The site center consists of a concentration of monumental architecture in dense formation covering an area of approximately 6.16 sq. km. Explorations have revealed concentrations of architecture at the end of radiating causeways, suggesting that the area of significant architecture may be substantially larger. The major architecture is divided into two geographical areas, the east group and the west group. The western portion of the site is dominated by the Tigre and Monos pyramids (55 m and 45 m high, respectively) and associated structures (Fig. 2), while the eastern part of the site is marked by the large Danta pyramid. Six field seasons of excavations and explorations in this area have revealed that the site was constructed and occupied primarily in the Preclassic period (Forsyth 1980; Matheny et al. 1980; Howell 1983; Demarest et al. 1984; Hansen

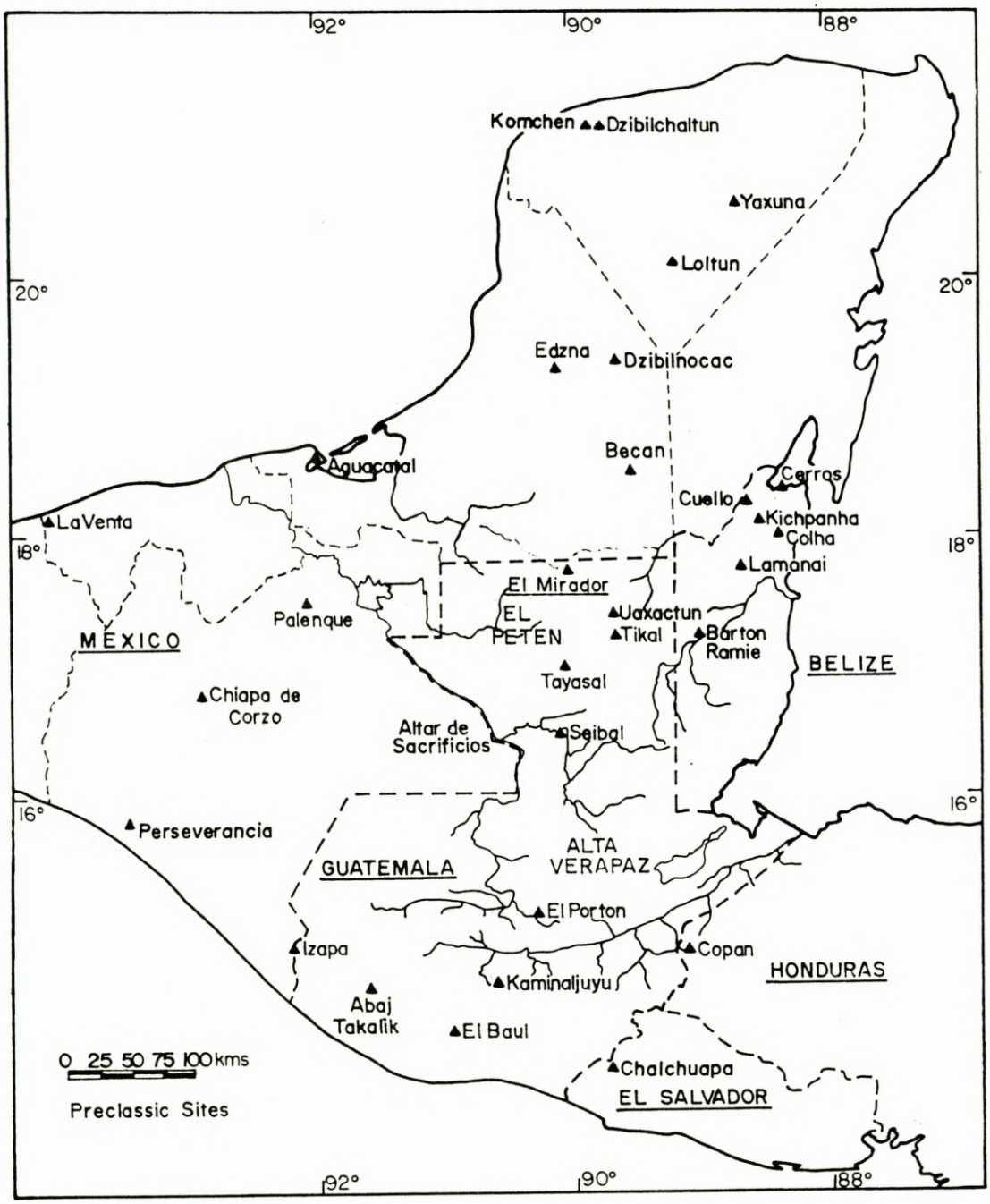

Fig. 1. Map of the Maya lowlands. (after Hansen 1984:5)

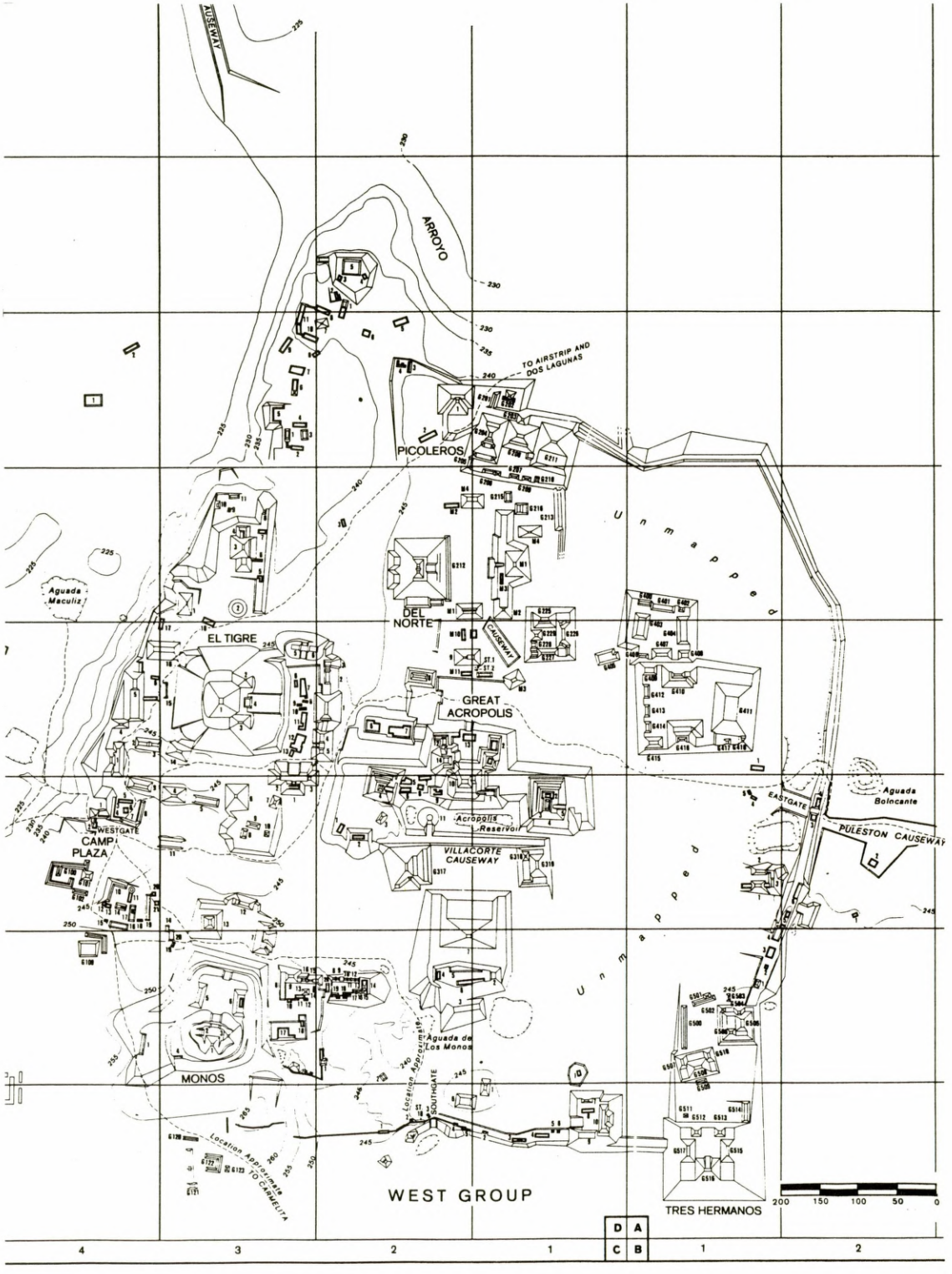

Fig. 2. Preliminary map of a portion of the western sector of El Mirador, Peten, Guatemala. (Courtesy of Bruce Dahlin)

1984) although sporadic evidence for limited Protoclassic, Early Classic, and Late Classic populations have been found within and around the site center.

Excavations at El Mirador have yielded rich (on the order of 1000-2500 sherds per cubic meter) yet finely stratified deposits of Late Preclassic pottery. Moreover, we also have a large number of radiocarbon dates from these excavations that are internally consistent and parallel the dating of the slipped ceramics of the Late Preclassic period at other previously reported sites.

Our basic approach to the study of the unslipped ceramics was, therefore, to chart carefully the occurrence and frequency of recognizable modes and forms in terms of stratigraphic context, corresponding ceramic associations, and the sequence of chronometric dates. It was our intention to compare the patterns of change derived from this procedure to other previously investigated sites. However, this proved extremely difficult to do because detailed provenience data are rarely provided in the standard ceramic illustrations. This is, in our opinion, a significant deficiency that needs to be rectified in future ceramic reporting. Nevertheless, we have attempted to provide what comparative data we could find in the literature.

DATING THE TIGRE AREA

The earliest permanent inhabitants of El Mirador identified to date probably appeared during the Middle Preclassic period, as suggested by carbon samples, isolated ceramics, and the location of Mamom horizon deposits in the Central Acropolis and Monos regions of the site. However, this period is poorly known, and as yet no architectural features have been demonstrably associated with this occupation. By at least the beginning of the Late Preclassic period (ca. 300 BC) (Beta 3166, Beta 12238, Beta 12239, UCLA OHL #10394), sascab plaza floors were being constructed, surrounded by modest public architecture and small domiciles of simple construction (Hansen 1984:480-481). This earliest period, which we will call "LPC 1" for convenience, lasted until about 200 BC, when massive construction projects were initiated throughout the site (Howell 1983:204; Hansen 1984:482). This public architecture was in use until approximately AD 150 or 200, after which there was a marked decrease in population and a hiatus in architectural construction. Changes in the slipped ceramics, given the excellent stratigraphy and associated radiocarbon dates, particularly from the Tigre area, have made it possible to divide the sequence into two ceramically distinct periods. One of these (LPC 2) ranges from about 200 BC to approximately AD 50 (Beta 1965, Beta

5550, Beta 5552, Beta 5554, UCLA OHL #10395, 10396) and is marked by standard Chicanel forms and slips. The other (LPC 3), dating from AD 50 to ca. AD 150, yielded quantities of slipped ceramics characteristic of the Terminal Preclassic, such as the introduction of pseudo-Usulutan decoration and hooked rim modes, and a decline in the quality of paste texture and Sierra Red slips. Mammiform tetrapods, polychromes, miniature vessels, glossy and dull oranges, and effigy paintings do not seem to appear before approximately AD 150-200.

The extent and nature of the stratigraphy and chronometric dates associated with the construction and abandonment of the architecture and plaza constructions provide a nearly ideal setting for the analysis of the chronological variation of Late Preclassic unslipped ceramics. The chronological evaluations of the unslipped plain and unslipped striated pottery are based on existing available data, primarily from the western area of the site, and are presented here as a potential pattern of development that may be duplicated at other lowland Maya sites. Whether or not the pattern found in the Tigre complex and other areas of El Mirador will hold true for other Maya sites is a question that can be answered only if Maya ceramicists attempt to analyze the Late Preclassic unslipped pottery from their sites in a manner analogous to that described here.

THE UNSLIPPED CERAMICS FROM EL MIRADOR

Unslipped ceramics examined in our study came from a large number of archaeological contexts. These include small plaza groups near Monos pyramid (Op. 21G, 21H), similar groups to the south (Op. 16) and north (Op. 70) of Tigre pyramid, the "Cross-roads" area (Op. 15) at the junction of the causeways to the west of the large architectural complexes, the immediate vicinity of Tigre (Op. 26, 32, 35, 36), the Great Plaza area to the north of the Central Acropolis (Op. 27), the earthwork construction in the site center near Aguada Bolocante (Op. 19), the Preclassic middens located beneath the small Late Classic community of LacNa (Op. 17), and on Danta pyramid (Op. 30, 31, 33) in the eastern section of the site. However, the best fine-grained stratigraphic control comes from excavations in the area around the Tigre complex (see Fig. 2). These excavations consisted of stratigraphic test pits, deep cuts to expose architectural features, broad horizontal excavations to expose architectural elements and iconography, and tunnels. Preclassic ceramics were recovered in all of these excavations, and pure deposits were found on floors, in extensive middens, below floors, and in structural fill throughout the Tigre area, establishing a terminus post quem for the construction and use of the visible monumental architecture around Tigre.

Late Preclassic Unslipped Pottery from El Mirador

The ceramics from deep penetrations in the Central Acropolis (Op. 40) and on Monos pyramid (Op. 50) were not available for this study, although the results would have substantially contributed to our analysis, because they yielded well-stratified Middle Preclassic materials.

Unslipped ceramics accounted for 27% of the 30,000 sherds classified from the Tigre area alone, with about 22% consisting of striated and 5% unslipped plain pottery. This ratio seems to be fairly consistent throughout the stratigraphic columns in this section of the site.

In our analysis, it soon became apparent that surface finish characteristics, by themselves, provided no significant chronological information. For this reason, the standard typological categories employed by Maya ceramicists and discussed in the preceding section were of little value for our purposes. Paste differences likewise failed to produce consistent patterns of change over time. The only useful feature in the Tigre samples was rim form. Within such rim form categories, however, the pattern of striation, and occasionally paste, was sometimes significant. Our approach, therefore, was to analyze changes in rim form through the stratigraphic profiles, taking into account the bracketing dates in terms of the three chronological periods we have isolated in the Late Preclassic (LPC 1-3) as well as a "Protoclassic" period (see Figs. 3 and 4 for examples of the stratigraphic profiles and rim forms, and Table 1 for proveniences of rim profiles illustrated in this paper).

A series of 16 profile or form groups have been identified. These we have labeled using the letter designations A through P. Groups A and B are residual categories that appear throughout the three chronological periods represented in the Tigre area. The following discussion is thus presented in terms of vessel shape differences, essentially rim profiles, and is arranged in general chronological order from early to late. For some of our groups we provide comparative information to examples illustrated from other sites. These comparative data are in no way exhaustive, however. A more thorough search of the published literature would doubtless yield further comparative information. Moreover, for reasons stated previously, we could not always be certain of the stratigraphic and contextual status of the comparative sherds. Therefore, it is sometimes difficult to determine whether or not these examples correspond chronologically and sequentially to those of El Mirador.

Groups A-B

Group A. The Thick Standard group (11+ rims) is characterized by restricted neck vessels with short

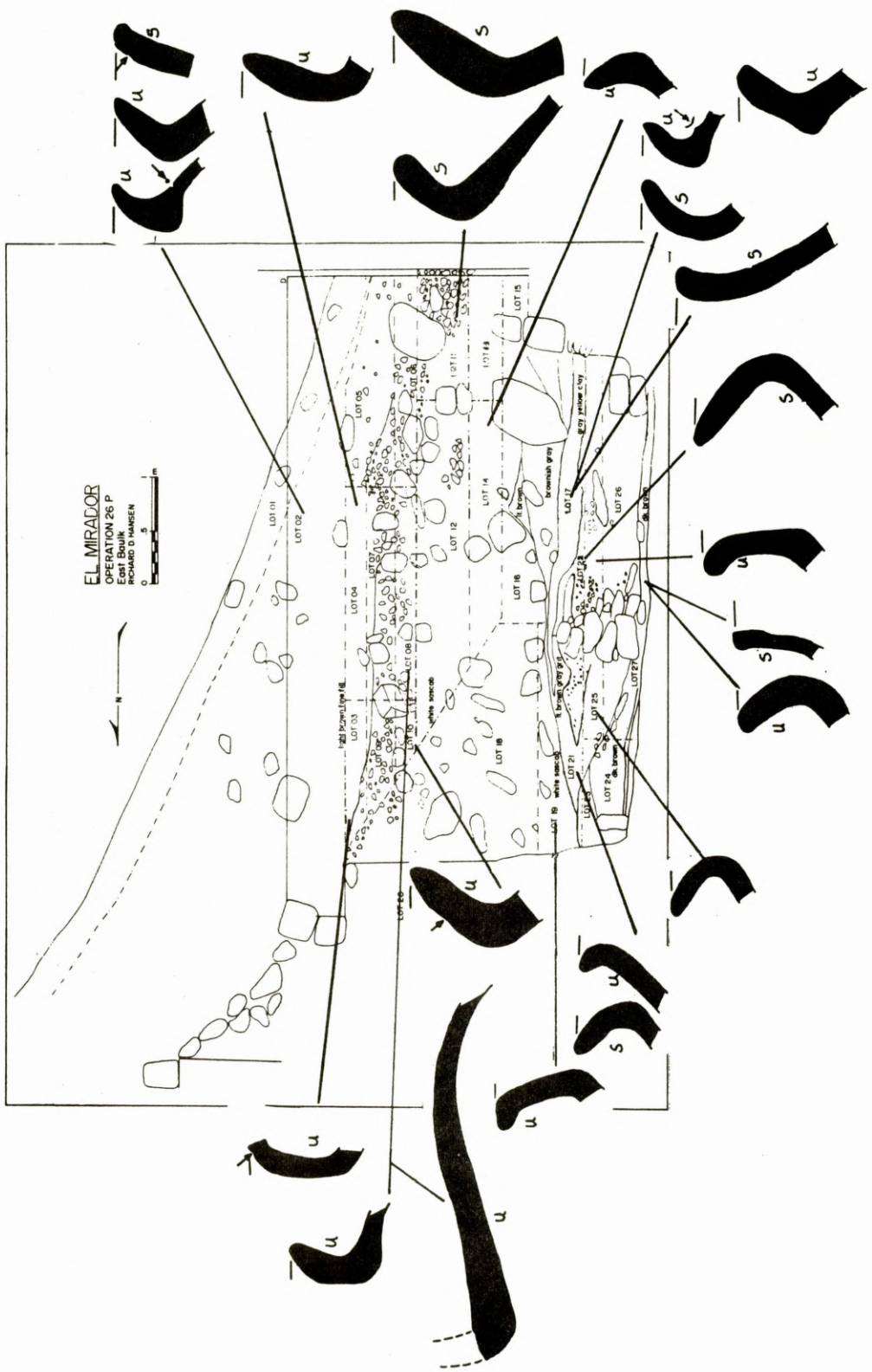

Fig. 3. Op. 26P stratigraphic section and associated rim forms.

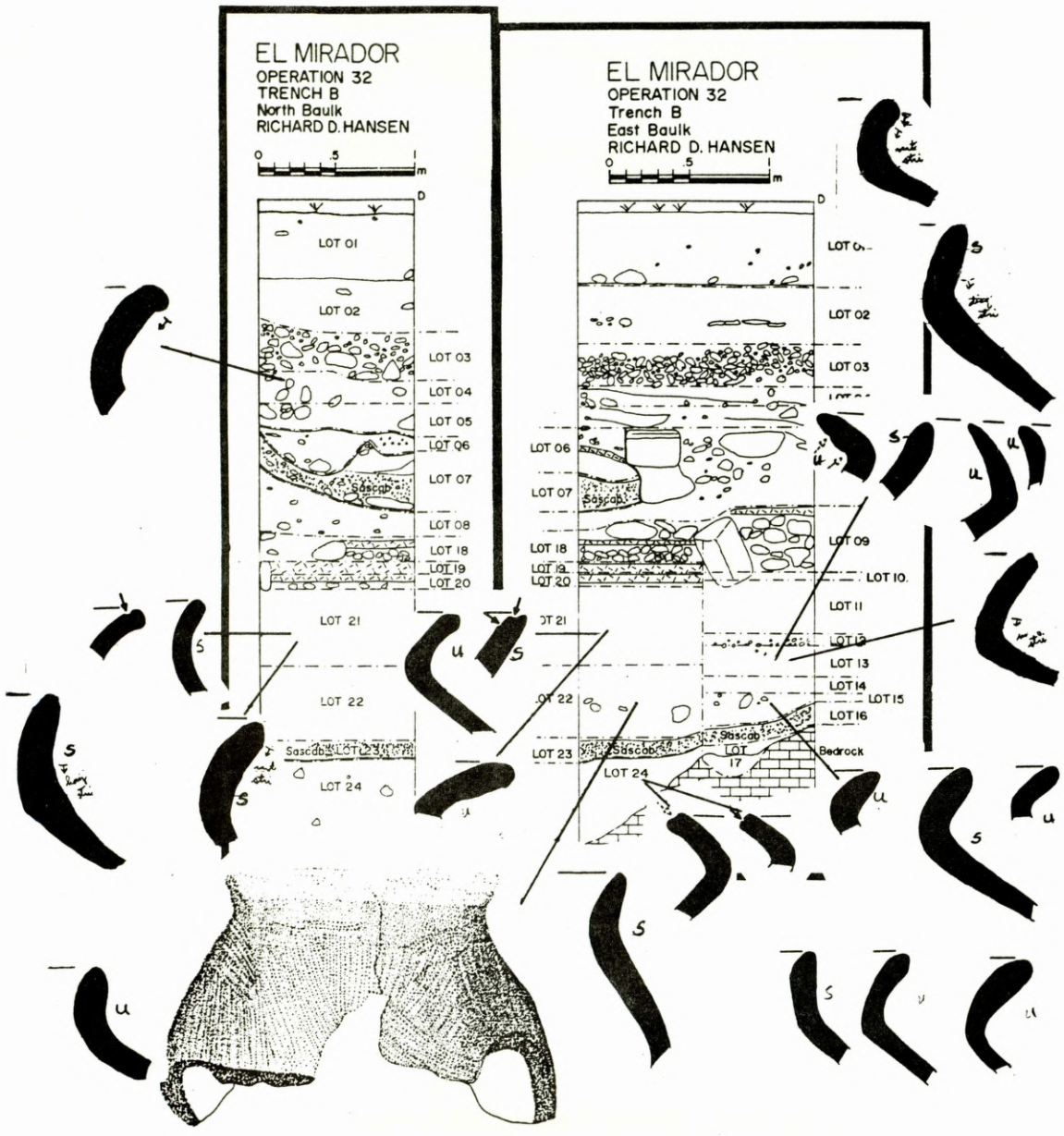

Fig. 4. Op. 32B stratigraphic section and associated rim forms.

flaring rims and a ceramic wall thickness, ranging from 1.1 cm to 1.7 cm, which continues through the neck and onto the rim (Fig. 5a-f). The paste ranges in color from dark gray-brown to light brown, and from brownish red to orange, often with smudged and smoked areas. Temper also ranges from sherd temper to coarse limestone grit. The thick-walled sherds tend to be found in earlier contexts than the Thin Standard group (B; see below) in nearly all cases, while the darker paste is generally earlier than

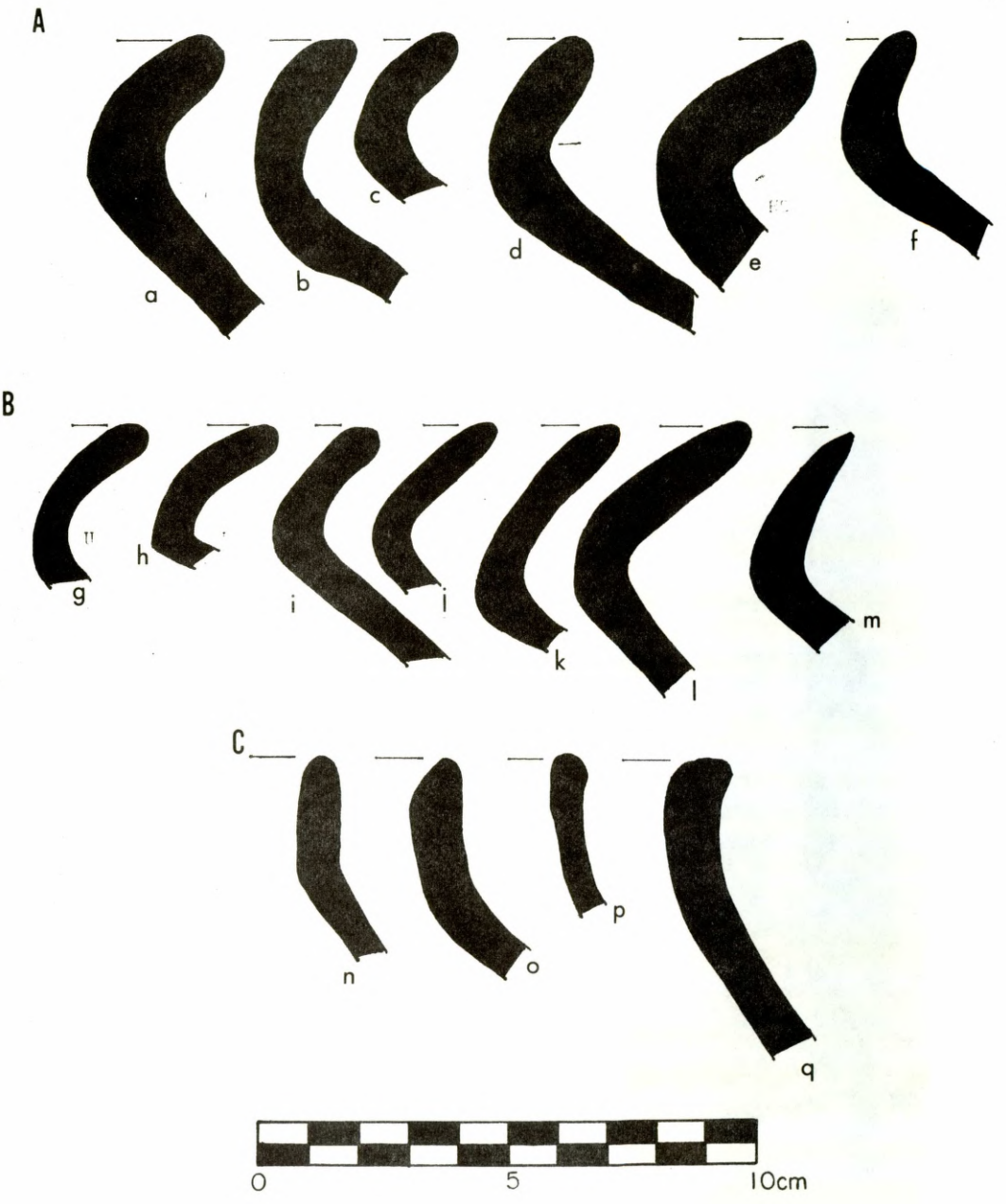

Fig. 5. Form groups A-B.

the light-colored paste. Samples indicate a uniform distribution of plain and striated finishes, although striated examples show a tendency to be horizontally striated.

Group B. The Thin Standard group (15+ rims) consist of sherds recovered from late Middle Preclassic to Protoclassic deposits, although as a group they tend to be less numerous in early contexts than the Thick Standard

group (Fig. 5g-m). The variations in color, texture, and temper seem to have little consistency, as noted above, except that in our samples, earlier thin walled restricted vessels tended to be unslipped plain. This is in contrast to the general pattern for early contexts at the site, because in all but one case unslipped striated sherds vastly outnumber unslipped plain sherds (Hansen 1984:424-435). This does suggest, however, that thin walled unslipped vessels in the early Late Preclassic tended to be unslipped plain. The variations of striations noted at other sites as possible distinctions for establishing types or varieties (Pring 1975:5) do not seem applicable here because plain necks and vertically striated necks are found through the stratigraphic columns. This group appears to be solidly within the Late Preclassic inventory by at least 200 BC and remained in vogue until approximately AD 200.

Groups C-F (ca. 300-200 BC)

Group C. The earliest consistent rim form at El Mirador, both in terms of chronometric and relative dating, is a relatively straight necked restricted vessel (Fig. 5n-q). The vertical necks rise from 2 to 3 cm from the body of the vessel (Fig. 5n-o), while rim diameters range from 9-14 cm, with some occasionally larger. A common variant of this form has only a slight outcurving of the rim (Fig. 5p, q). Paste colors range from pinkish-brown to brownish-gray, and most tempers appear to be limestone grit, although several sherd tempered examples were noted. The distribution between striated and unstriated vessels was nearly equal. In addition, most striated vessels were vertically striated, although several horizontally striated sherds were noted (Op. 26K-06). This was especially the case where the vessel necks were short (Fig. 5p, q).

Comparison: This form was found in Tr. E-3 and the lowest levels of Pit A-8 (Late Preclassic) at Aguacatal and listed as Isla Aguada Striated (Matheny 1970:47-48, Fig. 27gg-hh). It also occurs in the Sapote ceramic group at Altar de Sacrificios in San Felix times (Adams 1971: Chart 2e; also see Pring [1976: Fig. 51r, s] for Richardson Peak Unslipped and Nelson [1973: Fig. 70b] for a Dzibilnocac II example).

Group D. This group comprises another series of very early Late Preclassic forms with probable antecedents in the Middle Preclassic (Fig. 6a-j). These forms have shallow, short, flared necks on restricted vessels. The rim extends 1.5 to 2 cm from the upper exterior neck of the vessel, with only slight flaring of the rim. Rim diameters ranged from 9-19 cm. Over 60% (12) of the rims were striated vessels with vertical striation (Fig. 6e-h). A common variant of this form featured the extension

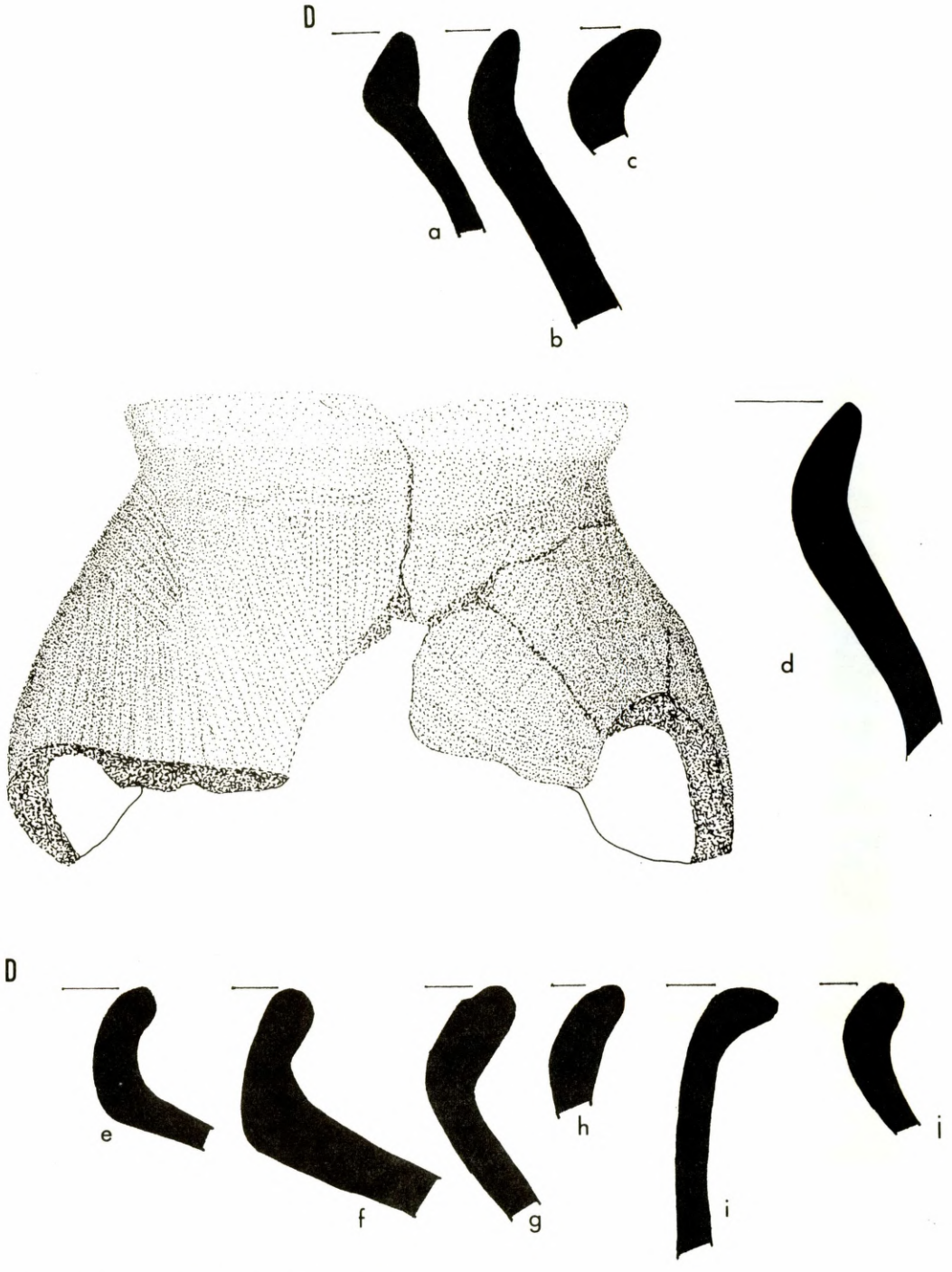

Fig. 6. Form group D.

of the striations to the rims (Fig. 6e-g). The several forms with horizontal striations were in collapse rubble from later contexts (Op. 26A-11, Op. 19A-06), so whether this particular mode turns out to be chronologically diagnostic as a whole is not as yet certain. Apparently both vertical and horizontal striations can be found on the same vessel (Fig. 6d).

Comparison: Ceramic forms of this group have been recovered in both Middle and Late Preclassic contexts throughout much of the Maya lowlands, verifying its widespread distribution (Smith 1955: Fig. 15a5; Matheny 1970: Fig. 27mm, nn; Adams 1971: Chart 3g; Pring 1976: Fig. 33g-k).

Group E. Another early form in the Late Preclassic sequence at El Mirador is the unslipped tecomate (Fig. 7a-f). These neckless vessels have been found in deep stratified contexts throughout the site with a variety of paste colors and tempers of limestone grit and sherds. Approximately 80% of the known examples are striated, of which 66% are horizontally striated. Striations begin between 2 mm and 1 cm from the rim (average = 8 mm). Rim diameters range from 10-14 cm. Similar rim forms were also recovered by Demarest and Sharer (Demarest 1984:76) in their test pit program at the site.

Comparison: Ball (1977a: Fig. 21) identifies a herringbone-striated rim at Becan as Pakluum Sapote Striated. Adams (1971: Fig. 9z) considered another example to belong to the San Felix complex. This form has been found in Mamom and Tzakol deposits at Uaxactun (Smith 1955: Fig. 15b1, 69b5) and in the Jenny Creek complex (Jocote Orange-brown) at Barton Ramie (Gifford 1976: Fig. 16a). Tecomate forms are much more common in slipped forms in Preclassic times in the lowlands, but unslipped examples, as indicated above, are found. In the Maya highlands, however, antecedents are much more common (Sharer 1978: Fig. 7a3--Cinquera Brushed).

Group F. This rim form was found in the earliest stratified deposits in the Tigre area (Op. 32B-24/59), dating some time before 300 BC, and was sealed below the lowest sascab plaza floor in the Tigre Plaza. This distinct form features a pronounced prefiring incised groove that encircles the rim of flaring necked vessels (Fig. 7g-m). Its occurrence in other Preclassic deposits on the eastern side of the site (Fig. 7i-k) and the similar mode of slipped early vessels and true negative resist bowls (Hansen 1984:585, Fig. 5/18m) suggest that the form was clearly established in the early pottery mode repertoire. This form did not occur in our samples from the subsequent period (ca. 200 BC - AD 50), but it reappeared in "LPC 3" around AD 100-150. However, the later examples differ from the Group F pottery in paste color and texture, although it is not clear, because of the limited sample size, whether or not such differences are consistent. This constitutes an example of a particular form that apparently disappeared, only to reappear at a later time in somewhat modified form (see Fig. 10m).

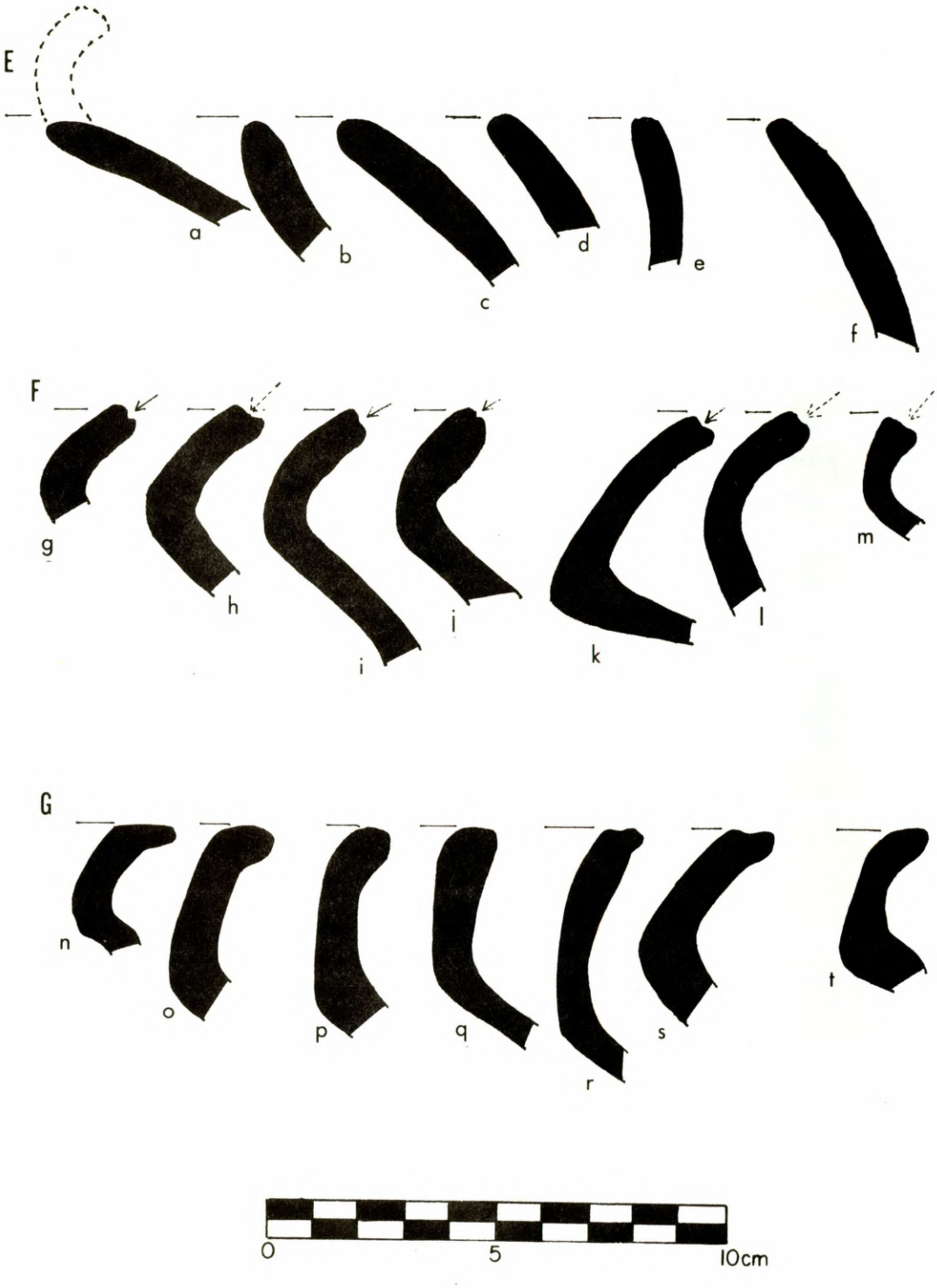

Fig. 7. Form groups E-G.

Comparison: This form is most commonly identified in the literature as a Tzakol horizon shape (Smith 1955: Fig. 17c6; Adams 1971: Fig. 34a; Sabloff 1975:Figs. 194g, j-l, 195b-d; Forsyth 1983: Fig. 21a-f). It apparently also occurs on the Protoclassic horizon (Adams 1971: Fig. 25b; Gifford 1976: Fig. 75a). Ball (1977a: Fig. 2e), however, found it in Pakluum deposits at Becan; and Forsyth reports it in Middle Preclassic context at Edzna (Forsyth 1983: Fig. 7x), as does Gifford (1976: Fig. 17b) at Barton Ramie. It also occurs in the Mount Hope complex at Barton Ramie (Gifford 1976: Figs. 56d, 57b).

Groups G-K (ca. 200 BC - AD 50)

Group G. The modal attributes of Group G are found in the middle Late Preclassic period (Fig. 7n-t), with one example associated with a radiocarbon date of 200 BC +/- 80 (uncorrected). The form generally consists of a jar with a tall, vertical neck and a pronounced everted rim, though the vessel neck will slightly flare on occasion (Fig. 7n, s, t). The paste is generally coarse, with colors ranging from brownish-gray to reddish brown to a light-red paste. The temper tends to be coarse limestone grit, though a crystalline temper was found in one sherd. Surface treatments are divided evenly, with 50% striated and 50% unslipped plain. Striations vary between both horizontal and diagonal brushings.

Comparison: This form occurs in both Mamom and Chicanel deposits at Uaxactun (Smith 1955: Figs. 14b 12, 13, 15a4) and in Late Preclassic context at Barton Ramie (Gifford 1976: Figs. 45c, 47h).

Group H. By the middle of the Late Preclassic period, a relatively rare but distinct modal form is evident in the stratigraphic record at the site. This group (Fig. 8a-d) has decoration at the base of the short, flared neck. This decoration was formed by placing finger or thumbprints on a small, protruding horizontal flange immediately below the neck (Fig. 8a, b), forming impressions approximately 6 mm apart. Another variant of this has a small flute around the neck base (Fig. 8c), or in another case a row of small punctated perforations on the exterior body at the base of the flaring neck (Fig. 8d). Paste color varies from light gray or gray-brown to a dark brownish gray, with temper ranging from coarse sand and fine crystalline calcite to a coarse limestone grit. Surface treatment is invariably unslipped plain.

Comparison: Although a relatively rare form at El Mirador, this mode is both fairly common and early at other sites. Sabloff (1975: Fig. 29) noted impressed examples at Seibal, and Gifford (1976: Fig. 45h, j) reports the form from Barton Creek deposits. Similar examples have been found at Uaxactun (Ricketson and

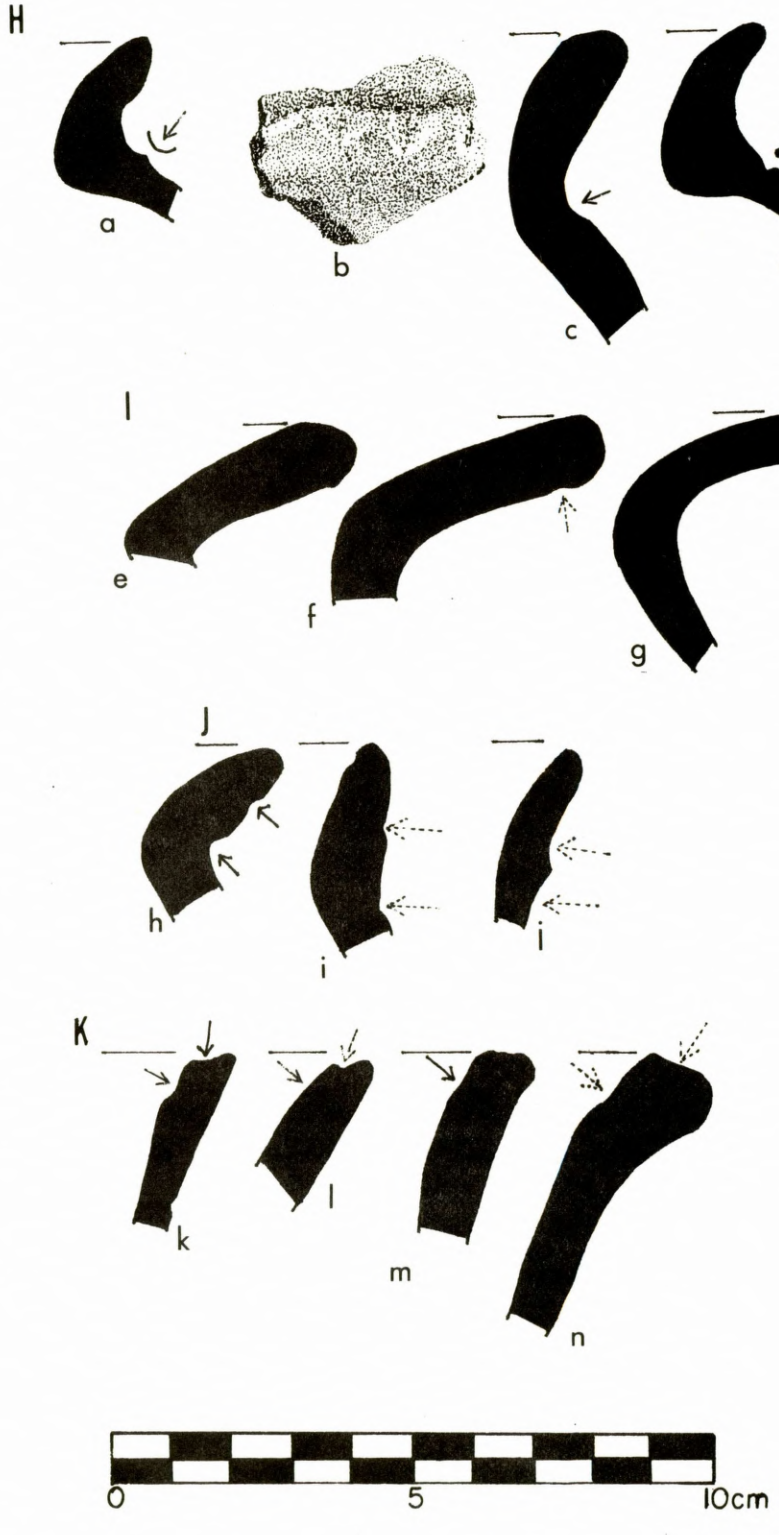

Fig. 8. Form groups H-K.

Ricketson 1937: Fig. 148b).

Group I. This is a rare form at the site. The diagnostic attribute of this form is the wide everted rim on restricted neck vessels. The pronounced rim flares 4 to 5 cm from the neck-body junction in radical fashion so as to appear almost horizontal (Fig. 8e-g). Paste color varies from red to light reddish-brown with incomplete oxidation. Inclusions consist of large sand and limestone grit and an unknown fine temper. As was the case with Group H, all exteriors are unslipped plain and well smoothed. This group was recovered from excellent midden contexts (Op. 32B-21, 32C-02, 16A-2-19).

Group J. This group is also rare in the Tigre area, but the stratigraphic association suggests strongly that it dates to a slightly later time than groups G-I. A diagnostic mode consists of two shallow horizontal flutes on the exterior or underside of short, flaring rims (Fig. 8h-j). All surface finishes are unslipped plain, and paste color is a consistent grayish-brown, with temper ranging from limestone grit to large coarse sand and a fine, but undetermined, material.

Group K. During the middle of the Late Preclassic a distinctive unslipped plain and striated bowl form (Fig. 8k-n) appeared in the Tigre sequence. This form is characterized by contiguous broad, shallow flutes on the upper interior face of the bowl, and on the flat upper surface of the rim. The major difference between this form and the later slipped forms of the Terminal Preclassic-Protoclassic is the thickening of the vessel walls near the rim (Fig. 8k, m, n). Striated examples have vertical striations, usually beginning 1.5-2 cm below the exterior rim. Paste color ranges from grayish-brown to grayish-black, with a single example having a light brown paste color. Temper consists of large quartz sand particles, crushed sherds, and undetermined materials.

Groups L-N (ca. AD 50-150)

Group L. Group L constitutes a collection of 8 unslipped bowls that, with the exception of Fig. 9a, appear rather suddenly in the ceramic sequence, apparently at and after the time of Christ (Fig. 9a-h). These flat-bottomed bowls range in height from 3 to 4 cm, with rim diameters ranging from 16 to 20 cm. Roughly 75% of the sample bore unslipped plain surfaces, while the remaining 25% had horizontal striations. One vessel (Fig. 9a) varies in form (deep bowl, thick walls, rim flute), composition (coarse, unknown temper), and paste color (dark brownish-red with external smudging) from the other samples, and comes from a sealed midden with a radiocarbon date earlier than 200 BC. With the exception of this

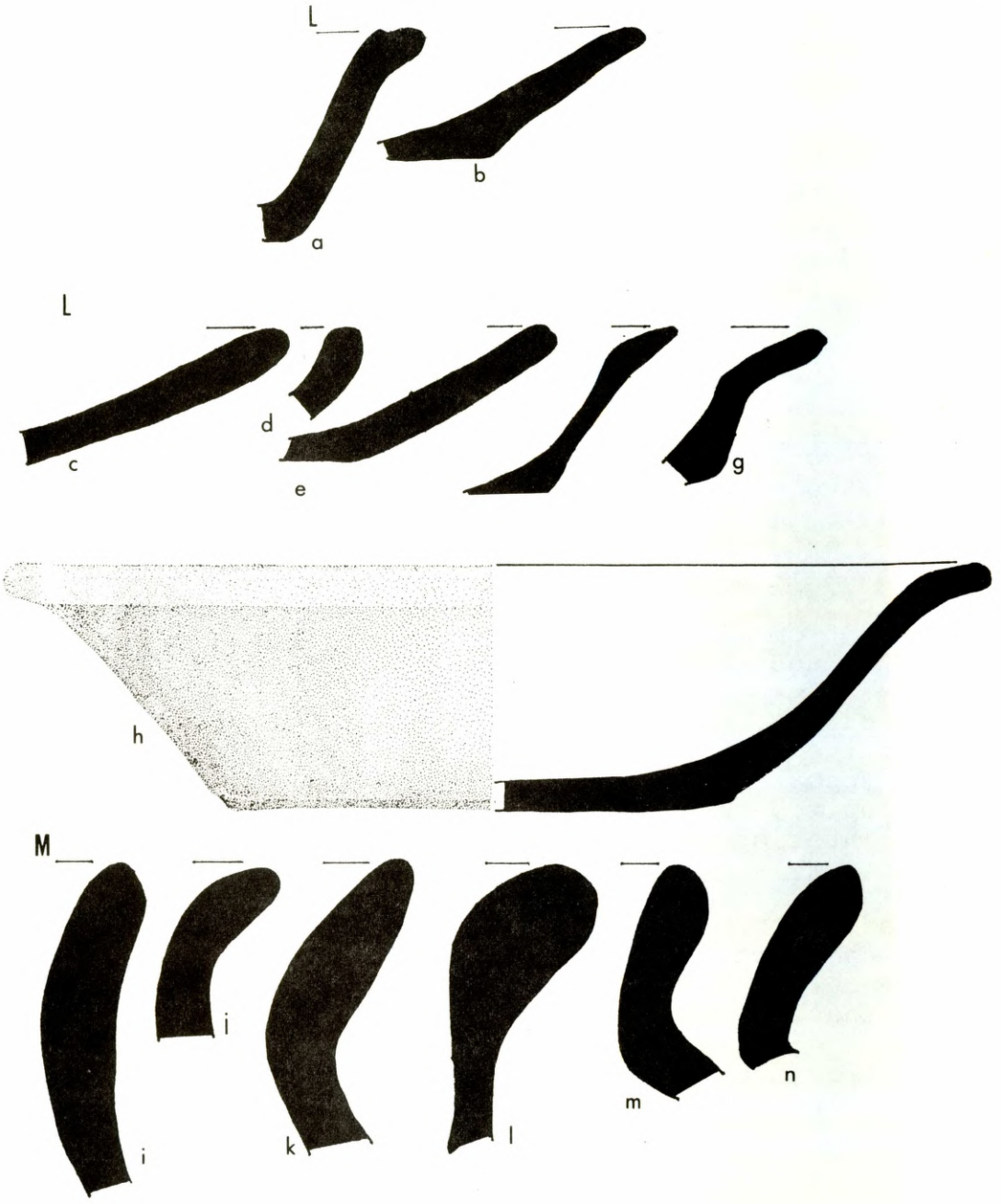

Fig. 9. Form groups L-M.

example (Fig. 9a), the flat bottomed bowls date late in the sequence, especially the vessels with curving side walls, which are found in very late contexts. The general paste color ranges from reddish-brown to brownish-gray, while the temper is either of limestone grit or undetermined.

Comparison: At Tikal, Gifford (1976:126) noted the appearance of unslipped bowls during Cauac times. Culbert

(in prep.:Ca9, Ci13) indicates that the form begins in Cauac times at Tikal and continues through the end of the Cimi phase. Adams (1971: Fig. 95b, Chart 3,2c) also reports a similar form of unslipped dish or bowl at Altar de Sacrificios. In the northern lowlands, both Ball (1977a: Fig. 2j-k) and Forsyth (1983: Fig. 16o-p) report this rim form as occurring on Sapote Striated vessels.

Group M. By the end of Late Preclassic times (ca. AD 100), very large, unslipped vessels with thick walls, and slightly flared rims, ranging in thickness from 1.2 to nearly 3 cm, were introduced (Fig. 9i-n). The slightly flared neck or rim is an important diagnostic mode in distinguishing this form from the "Thick Standard" form of Group A, which has a much more pronounced flaring neck. About 75% of the Group M rims are horizontally striated, while 25% are plain. Paste color ranges from reddish-brown to light brown, and most tempers appear to be a fine limestone grit. The sizes of the vessels are impressive, with known rim diameters ranging between 19 and 26 cm, and several forms probably exceed this.

Group N. Another late diagnostic mode is the rim form bearing an encircling horizontal groove situated on the exterior side of the rim to form a labial ridge (Fig. 10a-e). This form differs from the somewhat similar and earlier form in Group K in that among other things, the vessel wall tends to remain thick immediately below the ridge, so that the vessel body is thicker than the rim above it. Paste color ranges from light brown to light gray-brown, with rather coarse textures and limestone grit tempers. One example (Fig. 10a) had an area of lime encrusted on the interior and exterior walls; it may have been covered with stucco at one time.

Groups O-P (post-AD 150)

Group O. Group O is very late in the Tigre sequence and can be identified by the thinning and narrowing of the vessel walls near the rim (Fig. 10f-l). This often includes a nearly vertical restricted neck with a horizontal "flute" on the upper interior rim, creating the "hooked rim" effect (Fig. 10f, k, l). This mode is modified somewhat in other forms by an extended and elongated rim, so that it is substantially thinner than the lower body (Fig. 10g-j). The rim form also extends to associated slipped vessels. On one unslipped example (Fig. 10k), diagonal striations extended to the exterior rim, while on others (Fig. 10g-h) there were horizontal striations beginning near the neck. Paste is light brown to gray-brown in color, sometimes with a darker interior core. Temper appears to be coarse limestone grit.

Group P. Group P is composed of only two nearly complete striated vessels associated with "Protoclassic"

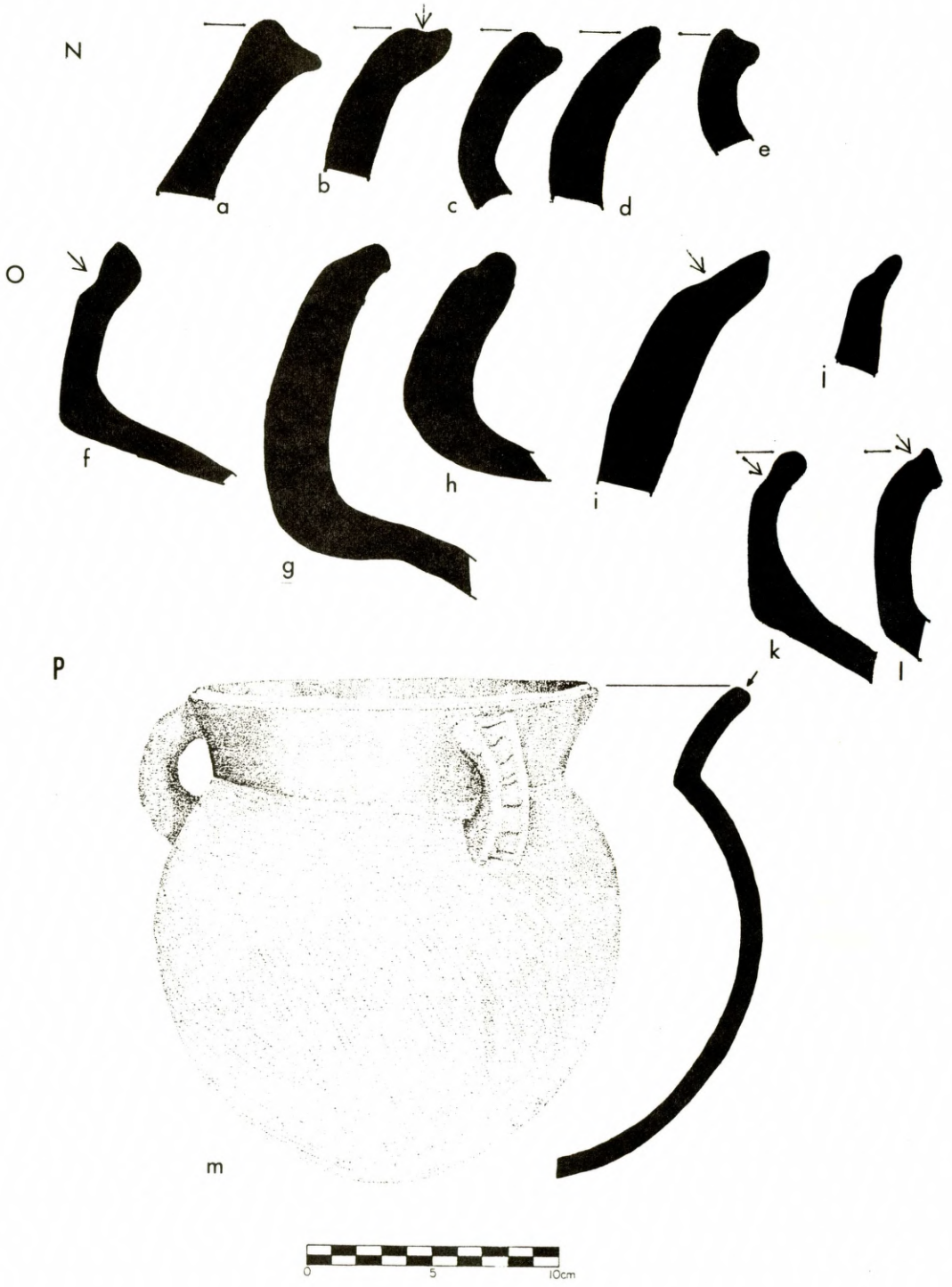

Fig. 10. Form groups N-P.

ceramics in the upper portions of a chultun in the Tigre plaza. The rather high, flaring necks have a rim diameter of 16 cm (Fig. 10m) and 19.7 cm (Fig. 11), with vessel heights of 19.5 and 28.5 cm respectively. The first vessel (Fig. 10m) has horizontal striations near the base of the neck and extending down the body of the vessel to the base of the vertical handles, at which point the striations become diagonal. The second vessel (Fig. 11) has an unslipped neck with three slight horizontal striations encircling the center of the neck. The body of the vessel is lightly striated in vertical and diagonal patterns immediately below the neck. The first vessel (Fig. 10m) also has three vertical handles, with the exterior center of the handles slightly inset and horizontally incised. The rim of this vessel has a slight groove encircling the entire upper rim, and is thus similar in this respect to the rims of Group F. Paste color ranges from gray to brownish-gray and contains fine limestone-grit as temper.

SUMMARY

Study of a series of rim form types of unslipped and unslipped striated ceramics from the Late Preclassic through Protoclassic times in well controlled stratigraphic contexts from El Mirador has demonstrated a chronological pattern of development--something that has not been done systematically for these ceramics in the lowland Maya area. Whether the changes that mark the unslipped pottery at El Mirador are unique to that site or region or are similar to changes taking place in other parts of the Maya area remains to be seen. Such ceramic comparisons can be viewed objectively only by including in ceramic reports the proveniences of illustrated sherds and stratigraphic profiles of the various excavations. Only in this way can more objective evaluations of the chronological seriation of Maya ceramics be made. The detailed correlation of ceramic modes to stratigraphic columns and chronometric data has allowed chronological seriations of ceramics which in the past have generally been difficult to identify. Similar observations at other sites will allow further refinement of chronological values to modal variations for unslipped (and slipped) ceramics and enhance diagnostic identifications that can be tested elsewhere.

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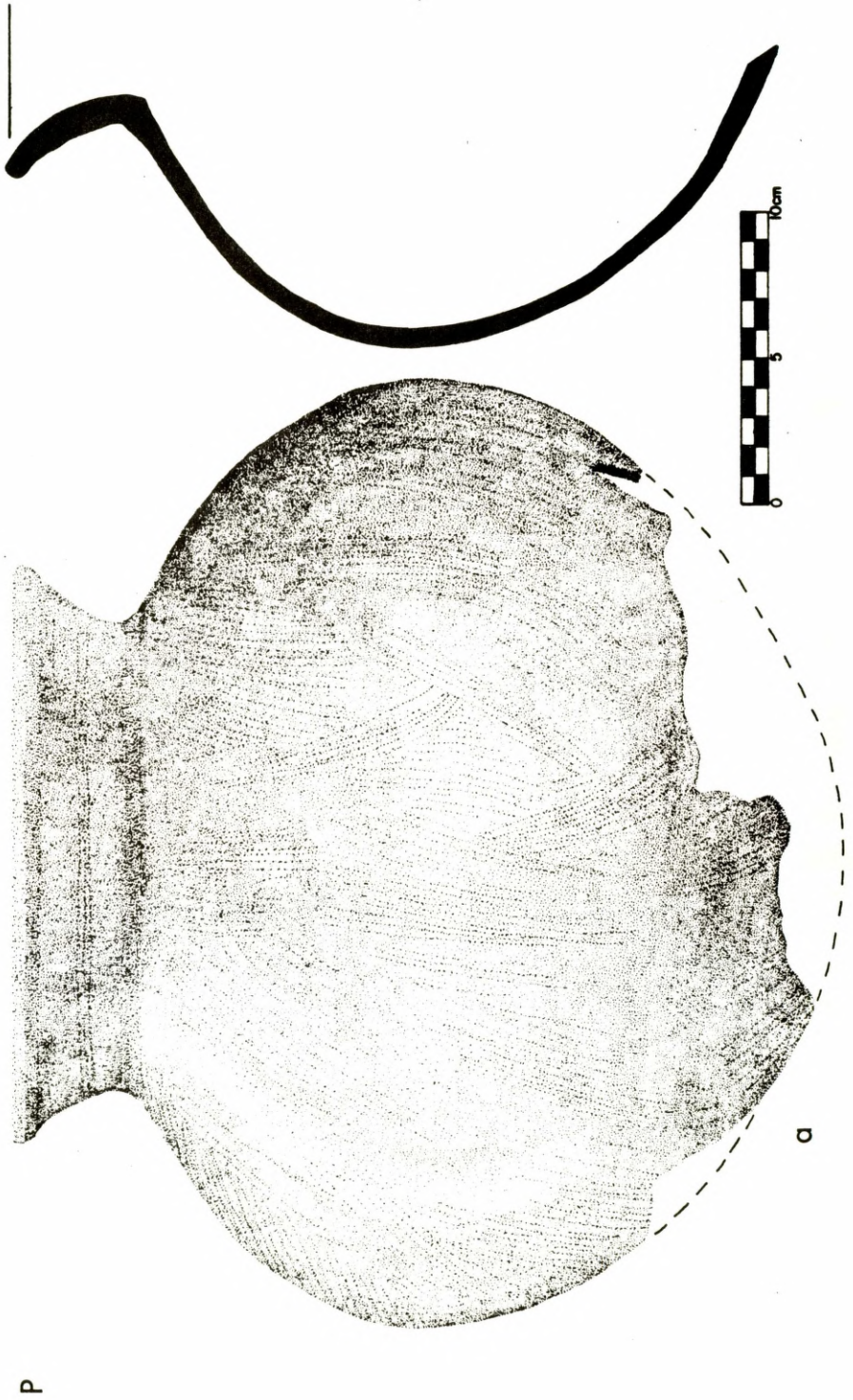

Fig. 11. Form group P.

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Appendix 1.
Provenience of Illustrated Forms
Operation, Trench/Lot/Bag number (Surface)[1]

Group A	Group B	Group C
a. 26J/19 (HS)	g. 26B/08 (UN)	n. 32A/09/10 (UN)
b. 26J/19 (ST)	h. 26B/08 (UN)	o. 32B/15/40 (VS)
c. 26P/21/289 (HS)	i. 32B/15/40 (UN)	p. 26P/27/297(VS)
d. 32B/15/40	j. 32A/07 (UN)	q. 26P/17/241(VS)
e. 21 G-00 (HS)	k. 19A-03 (HS)	
f. 26B/09/159 (UN)	l. 26P/22 (DS)	
	m. 32B/13 (UN)	

Group D	Group E	Group F
a. 26B/08/26	a. 26B/08/26 (HS)	g. 32B/24/59 (UN)
b. 26B/09/28 (UN)	b. 32B/13/33 (VS)	h. 32B/24/49 (UN)
c. 32B/15 (UN)	c. 21G-08 (HS)	i. 17A1/01 (HS)
d. 32B/22/54	d. 19A-01 (HS)	j. 33A/05,07 (ST)
e. 32B/13/33 (VS)	e. 27C 10-04 (HS)	k. 17A2/06 (DS)
f. 19B/10/65 (VS)	f. 26H-03 (UN)	l. 32D/02/96 (ST)
g. 19D1/02/12 (VS)		m. 32D/03/109
h. 21G/08 (VS)		
i. 21G-08 (DS)		
j. 26A/12A/88 (UN)		

Group G	Group H	Group I
n. 26H/11/191 (HS)	a. 26P/17/282 (UN)	e. 32B/21/51 (UN)
o. 26P/19/288 (UN)	b. 26H/09 (UN)	f. 32C/02/45 (UN)
p. 26P/25/294 (UN)	c. 26H/03/91 (UN)	g. 16A2-19 (UN)
q. 21G-00 (ST)	d. 26P/02/225 (UN)	
r. 19B/18 (ST)		
s. 26P/18/242		
t. 26E/04/84		

Late Preclassic Unslipped Pottery from El Mirador

Group J	Group K	Group L
h. 32B/13/33 (UN)	k. 26 I/09/197 (UN)	a. 32B/12 (UN)
i. 35A/09/11 (UN)	l. 32B/21/51 (ST)	b. 35A/09/11 (UN)
j. 32C/02/45 (UN)	m. 26P/02/225 (VS)	c. 21G-08 (HS)
	n. 26H/04/92	d. 19A-06 (HS)
		e. 32D/04/107(UN)
		f. 36A/10/24 (UN)
		g. 32D/03/98 (UN)
		h. 32D/02/96

Group M	Group N
i. 32A/05/05 (UN)	a. 32D/03/109 (UN)
j. 36A/20/59 (UN)	b. 32D/03/109 (ST)
k. 26P/11/235 (HS)	c. 17A2/04 (HS)
l. 19B/05 (ST)	d. Forsyth 1980: Fig. 46e
m. 26B4/d,21G/08(HS)	e. Forsyth 1980: Fig. 46i (ST)
n. 26A/09 (HS)	

Group O	Group P
f. 26K/06	m. 32D/02/99
g. 26P/03 (HS)	a. 32D/02/100
h. 26D/03 (HS)	
i. 32D/04/107	
j. Demarest 1984: Fig. 45n	
k. 26K/06 (DS)	
l. 26P/03 (UN)	

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1. HS = Horizontal Striation
   VS = Vertical Striation
   DS = Diagonal Striation
   ST = Striated
   UN = Unstriated

Appendix 2.
Symbols Used to Depict Some Ceramic Modes on Pottery Illustrations

1. A dashed arrow indicates the presence of a groove or flute in the location indicated.

2. A solid arrow indicates the presence of a pronounced groove or flute in the location indicated.

3. A solid arrow with a curved line in front of the arrow point indicates thumb impression in the location indicated.

4. A solid arrow with a solid dot in front of the arrow point indicates punctation in the location indicated.

19

A Re-evaluation of Protoclassic Orange Wares

James E. Brady

The Protoclassic period in Maya prehistory is marked by the appearance of the Floral Park ceramic complex. This complex signaled an end to the Preclassic waxy ware tradition and saw the introduction of glossy orange wares as well as a number of new vessel forms including the tetrapod mammiform bowl, Z-angle bowls and dishes, and pot stands. The hallmark of the Floral Park ceramic complex is the Aguacate Orange type-series.

Aguacate Orange, as defined by Gifford (1976), has a diagnostic pinkish-orange paste beneath an eroded orange slip. Pring (1977a:423-24), in his review of Protoclassic material, comments on the difficulty in applying this criterion. At the root of the problem is the extremely poor preservation of most Protoclassic collections which has prevented adequate definition of these pottery types on the basis of surface treatment. This has, in turn, prevented a clear evaluation of Holmul Orange ware in terms of its relationship both to earlier Preclassic ware and to the later Peten gloss ware.

Explorations at the ceremonial cave site of Naj Tunich, Peten, Guatemala (Fig. 1), have yielded a large and well preserved collection of Protoclassic ceramics. The site can be divided into two areas. The first of these is an enormous entrance chamber more than 150 m long and 30 m wide. The western third of this chamber contains a natural rise that was modified by filling and leveling behind a series of retaining walls. The result is a two-tiered balcony that rises over 14 m from the cave floor. The second area consists of more than a kilometer of tunnels that are reached from the balcony. Thus far no subsurface deposits of ceramics have been found in the tunnel and the majority of all artifacts were surface collected. The majority of the Protoclassic material

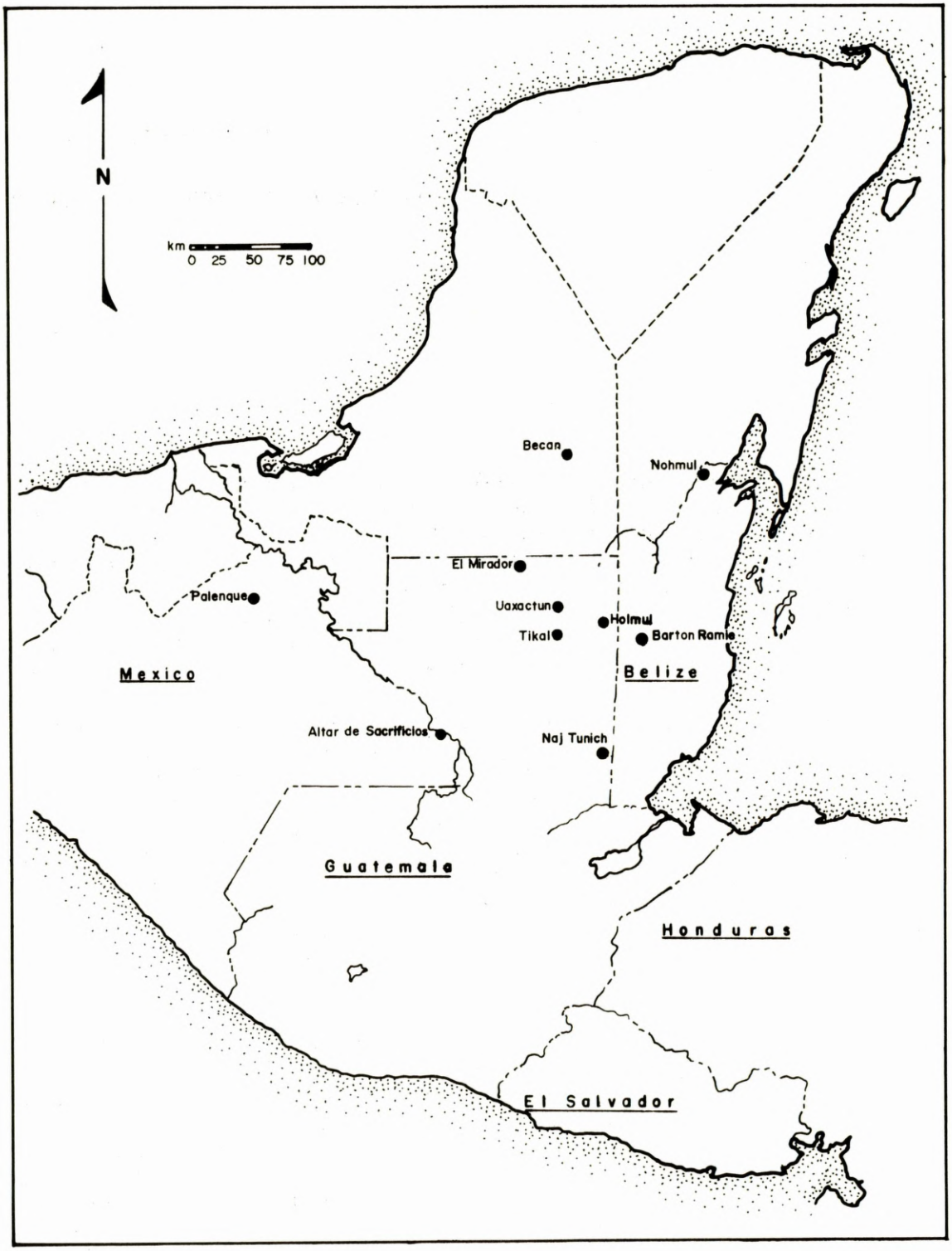

Fig. 1. Map of the Maya area showing the location of Naj Tunich in relation to other important sites.

comes from the balcony where two excavations have yielded a large number of ceramics.

A 2 m x 2 m x 50 cm test pit was dug on the upper level of the balcony around a looter's pit that was approximately 135 cm in diameter and 29 cm deep. A smaller test pit, 75 cm x 50 cm, was sunk in the floor of the larger pit and excavated to bedrock, which was reached between 72-82 cm. A total of 4114 sherds, 15.4% of the collection, was recovered. The ceramics appear to be a fairly uniform mixture of Protoclassic orange wares and Late Preclassic Society Hall Red (Kosakowsky 1982) mixed with large amounts of Uaxactun Unslipped.

In the second excavation, a trench was cut across the upper level of the balcony and abutted one wall of a Late Classic tomb. This trench yielded 2,575 sherds or 9.6% of the total collection. Three levels were defined. The first two, perhaps because of disturbance related to the construction of the tomb, showed a mixture of Protoclassic-Late Preclassic ceramics with a small number of Late Classic sherds while the third level was purely Protoclassic-Late Preclassic in makeup.

Several observations seem to be in order concerning the Naj Tunich ceramic assemblage. Over 40% of the ceramics by weight consist of Uaxactun Unslipped. Society Hall Red forms approximately one-fourth of the collection while the Protoclassic orange wares and a striated type make up about 15% each. The co-occurrence in many lots of Society Hall Red, Protoclassic orange wares, and the striated ware suggests that the three existed contemporaneously. Sierra Red is found in small quantities and is used on a limited range of forms: mushroom stands, tetrapod mammiform bowls, and Z-angle bowls.

The Naj Tunich assemblage is interesting in another way as well. In all previous reports monochromes form the bulk of the Protoclassic orange ware with dichromes and polychromes being quite rare. At Barton Ramie fewer than 300 of the 13,000 orange ware sherds had painted decoration (Gifford 1976:129-45). At Naj Tunich, however, monochrome sherds are rare and polychromes predominate. Also atypical at Naj Tunich is the presence of the tetrapod mammiform as the dominant vessel form (Pring 1977b:142).

The superior preservation of the Naj Tunich collection, afforded by the cave environment, allows for the definition of the various Protoclassic pottery types on the basis of surface treatment as well as the preliminary offering of several new typological distinctions and redefinitions. The most fundamental of these is the recognition of two Protoclassic orange wares

that I feel are sufficiently distinct technologically to warrant their being placed in separate type-series and in different wares.

The first of these type-series would retain the designation Aguacate Orange and remain in Holmul Orange ware. The series is defined as having a dull to slightly lustrous slip with color ranging from orange or red-orange to brown-orange or brown-red. The paste is compact, medium to medium-fine with medium to fine calcite temper. Forms include bowls with slightly incurved sides, bowls with outcurved sides, pot stands, mammiform supports, cream pitchers, and jars with vertical necks.

Also included in this type-series is Gavilan Black-on-orange. The forms are the same as those noted above with the addition of tetrapod mammiform bowls with flared sides and direct rim. Decorations include black lines painted on rims and shoulders, short, straight to wavy horizontal lines, pseudo-Usulutan wavy vertical lines, and geometric lines and triangles. This last category of decoration is found only on tetrapod mammiform bowls and is identical to the decorative motifs found in the Ixcanrio Orange Polychrome except that they are painted only in black and are invariably cruder in execution. It should also be noted that the mammiform supports found in the Aguacate Orange type-series are smaller, thicker, less smooth, and cruder in shape than those found in the Ixcanrio Orange type-series. Holes, usually round, are irregularly placed in these supports (Gifford 1976:142, Fig. 71m).

The Gavilan Black-on-orange sherds with pseudo-Usulutan design seem to be similar to Sacluc Black-on-orange: Sacluc variety at Altar (Adams 1971:28) and Savannah Bank Usulutan: Savannah Bank variety at Barton Ramie (Gifford 1976:116-19). At Naj Tunich the slip ranges in color from the golden brown described by Gifford to the orange described by Adams, but in all cases these clearly belong in Gavilan Black-on-orange at Naj Tunich. Adams (1971:29) notes that Sacluc Black-on-orange and Gavilan Black-on-orange are related to Altar. I suggest that these ceramics with the pseudo-Usulutan design be classified as Gavilan Black-on-orange: Sacluc variety.

The Ixcanrio type-series has been separated from the Aguacate type-series and placed in the Peten Gloss ware. It should be emphasized that with respect to surface finish, this material is indistinguishable from Early Classic Dos Arroyos Orange Polychrome basal flange vessels at Naj Tunich. The fact that the Protoclassic ceramics are formally and temporally distinct from those of the Early Classic justifies giving them separate type designations.

The monochrome in this series is tentatively designated La Compuerta Orange and is defined as having a glossy orange slip over a white or buff underslip. The paste is compact, medium fine to fine, and gray to pinkish in color with calcite temper. Forms include mammiform supports, Z-angle bowls, pot stands, cream pitchers, bowls and dishes with incurved sides--some of which have ring bases--and jars with outflaring necks.

A dichrome, Sabaneta Black-on-orange, has also been recognized. Paste and slip characteristics are the same as above. Decorations include a black line or lines on rims and occasionally on shoulders. The frog motif on exteriors and occasionally on interiors is also common. Forms include Z-angle bowls, bowls with slightly incurved sides, and jars with vertical necks.

Guacamallo Red-on-orange has been moved to the Ixcanrio type-series because no red-on-orange was found in the Aguacate type-series. Paste and slip characteristics are those of La Compuerta Orange. Decorations include a red line or lines on rims and one example of a frog. Among the forms, pot stands predominate, but other shapes include Z-angle bowls, tetrapod mammiform bowls, bowls with incurved sides, jars with vertical necks, and vessels with bridged spouts.

Paste and slip characteristics of Ixcanrio Orange Polychrome are the same as La Compuerta Orange. Decorations include red and black lines, geometric designs, frogs, and fishes. Forms are tetrapod mammiform bowls, Z-angle bowls and dishes--some with mammiform supports--pot stands, and jars with vertical necks.

Most tetrapod mammiform bowls and some Z-angle bowls have a white underslip with orange overslip on interiors and exterior bottoms. Red lines are used on rims and bases where the orange and white slips meet. Decorations on the exterior sides are in black and red on white. Gifford (1976:145) defines a separate type, Coquericot Buff Polychrome: Coquericot variety for a tetrapod mammiform bowl identical to the Naj Tunich material. Inspection of a single tetrapod mammiform bowl from Holmul indicates that it is also decorated in a similar manner. Because I suspect that most of the Ixcanrio Orange tetrapod mammiform bowls have a similar red and black on buff decoration I propose designating them Ixcanrio Orange Polychrome: Coquericot variety rather than treating them as a separate type.

The separation of the Ixcanrio series from the Aguacate series is based on differences in slip. The Ixcanrio series has a hard, bright, glossy slip which is indistinguishable from Early Classic Peten Gloss ware slips. It was also noted that the Ixcanrio series has a

white underslip similar to that noted by Smith (1955:23, Fig. 25b) in Early Classic polychromes at Uaxactun. The Aguacate series slip has a generally duller, more easily eroded, matte finish. Color varies between the two as well, with the Aguacate series ranging into brown or golden-brown.

There are marked differences in decorative techniques between the two series. The pseudo-Usulutan design and short horizontal black lines which are common in Gavilan Black-on-orange are almost totally absent in the Ixcanrio series. The fish and frog designs of the Ixcanrio series are not found at all in the Aguacate series. Similarities between the two series exist in the painted rims in both and in the replication of a limited range of the geometric designs found on Ixcanrio Orange Polychrome in Gavilan Black-on-orange. There seems to be a nearly complete overlap in vessel form as well in the two series. One difference, noted earlier, is the cruder form of the Aguacate series mammiform supports.

The creation of a separate Ixcanrio type-series placed in the Peten Gloss ware serves, I believe, to solve a problem that a number of ceramicists have begun to address. Smith (1955:22) notes that "Holmul I ware generally conforms to Tzakol gloss ware in surface finish." Adams (1971:26) lumps both the Protoclassic and Early Classic monochrome oranges together under the designation Aguila Orange in Peten Gloss ware. Pring (1977a:307) describes the Aguacate Orange of the Freshwater Floral Park complex at Nohmul as having a glossy slip which he compares to that of Early Classic monochrome reds. Forsyth (1983:63), like Adams, uses the designation Aguila Orange rather than Aguacate Orange for the Protoclassic monochrome orange ceramics at Edzna. He retains the Guacamallo Red-on-orange and Ixcanrio Orange Polychrome type designations which are based on differences in form between Protoclassic and Early Classic material, but places both of these types in Peten Gloss ware. Case (1982) goes farther in his analysis of the Stillwater Floral Park complex at El Pozito. Case finds that the slip of the El Pozito Protoclassic orange ware is indistinguishable from the Early Classic orange ware and so subsumes the former as form variants of the latter. I feel that the formal and temporal differences between the Ixcanrio and Dos Arroyos series justify the separate type designations, while their placement within Peten Gloss ware acknowledges the point that Case is correctly making.

The trend as noted above has favored the elimination of Aguacate Orange as a type by using Aguila Orange for both Protoclassic and Early Classic orange monochromes. The Naj Tunich material establishes the existence of Aguacate Orange as a separate type. Within the Naj Tunich assemblage Aguacate Orange shows a close relationship to

Society Hall Red. Society Hall Red shows a great deal of heterogeneity, with slips varying from heavy and waxy to thin and lustrous or even dull, and the color ranging from bright red and orange to dull brown. In this latter respect there is a nearly complete overlap in slip color between Society Hall Red and Aguacate Orange. There is a substantial overlap as well in slip texture, thickness, and sheen. When slips are heavy and waxy the classification of this material is relatively simple, but with the thinner and duller slips Society Hall Red grades into Aguacate Orange so that an arbitrary break has to be made between the two types. The continuity between the two suggests that the origins of Aguacate Orange lie in the Late Preclassic redwares.

The origin of the Ixcanrio series is uncertain. Pring (1977b:147) comments that the Floral Park complex at Barton Ramie "seems much closer to the Preclassic with a duller, more easily eroded surface" than at Nohmul, where the Freshwater complex has bright, glossy slip. For this reason Pring believes that Nohmul is later than Barton Ramie. He also feels that the smaller, cruder mammiforms are early (Pring 1977b:144). These differences correspond to the two series I have separated here and it would seem that Pring is suggesting that there is a temporal and evolutionary link between the earlier Aguacate and later Ixcanrio series. Unfortunately, the Naj Tunich material does not permit me to confirm this suggestion. It is not possible to separate the two series stratigraphically at the site and there are no intermediate forms indicating that one evolved into the other.

Within the Naj Tunich assemblage the slip of true Sierra Red most closely resembles the hard, bright, glossy one found on the Ixcanrio series. Pring (1977b:146) notes that Protoclassic ceramics exhibit a range of surface textures from waxy to glossy, indicating the transitional nature of the slip. Double slipping, which is found in the Ixcanrio series, has also been reported for Sierra Red (Ball 1977). Although these points are suggestive of a Sierra Red/Ixcanrio series connection, Sierra Red is too poorly represented in this collection to allow a convincing case to be made and this idea is raised simply as a point for future research.

In summary, the excellent preservation of the Naj Tunich ceramics allows two separate Protoclassic orange type-series to be distinguished. The first series includes Aguacate Orange and Gavilan Black-on-orange and remains in Holmul Orange ware. It is also suggested that Sacluc Black-on-orange and Savannah Bank Usulutan be redefined as Gavilan Black-on-orange: Sacluc variety.

The second type-series has been related to the Early Classic Aguila series and placed within Peten Gloss ware.

Guacamallo Red-on-orange and Ixcanrio Orange Polychrome have been removed from the Aguacate series and placed in this series. In addition, two new types, La Compuerta Orange and Sabaneta Black-on-orange have been created. Coquericot Buff Polychrome has been tentatively redefined as Ixcanrio Orange Polychrome: Coquericot variety.

Finally, it is suggested that Aguacate Orange may have derived from Society Hall Red on the basis of numerous similarities between the two in the Naj Tunich assemblage. The origins of the Ixcanrio series are not clear but the possibility that it arose out of Sierra Red is tentatively advanced.

Acknowledgments

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20

The Significance of Volcanic Ash Tempering in the Ceramics of the Central Maya Lowlands

Anabel Ford and Harry Glicken

Volcanic ash or glass tempering in lowland Maya ceramics has been recognized for at least half a century. As early as 1936, Anna O. Shepard (1937:145), in her first year with the Carnegie Institution of Washington (Morris 1974), was struck by the implications of fresh volcanic materials in ceramics provenienced from a region geologically composed of Eocene or older marine limestone sediments. In numerous archaeological reports and publications on ancient Maya ceramics, Shepard (1937, 1938, 1939a, 1939b, 1942, 1951, 1956, 1962) commented on the presence of volcanic ash. She insisted that the clays of the lowland Maya pottery she examined were obtained locally, yet they were infused with apparently nonlocal volcanic ash as a tempering agent.

According to Shepard, ceramics tempered with volcanic ash occur predominantly in association with the late period, now known as the Late Classic (AD 600-900). She observed that the volcanic ash was relatively fresh, containing isotropic [1] glass with little devitrification and was uniform in its composition both in particle size and in mineralogy (Shepard n.d.). The pastes were found regularly in red slipped vessels of the "vinaceous tawny wares" from San Jose (Shepard 1939b), Uaxactun (Shepard in Smith 1955), and Benque Viejo or Xunantunich (Shepard 1942). The volcanic ash temper was used instead of carbonates, implying that it was not an accidental inclusion, but was purposely used in lieu of the local limestone material. From her geological training (see Kidder 1937:144; Morris 1974), Shepard asserted that the relative abundance of the volcanic admixture in the pottery pointed to a reliable and steady procurement source. While to this day no known deposit of fresh volcanic ash has been reported for the Maya lowlands, Shepard contended that the source must have been readily available and material from it traded, and she continually

looked for geological substantiation of this position (cf. Shepard 1942, 1962:252-254; Shepard 1964:165; Jones 1984:59).

STUDIES OF VOLCANIC ASH TEMPER OF THE MAYA AREA

Shepard's interest in explaining the origins of volcanic ash temper in lowland Maya pottery never diminished. The subject is constantly brought up in passing references, but as none of her archaeological colleagues recognized the significance of Shepard's findings, the issue dropped from sight for some decades. Not until the early 1970's, after Shepard's death (Morris 1974), was there some revived interest in her research on volcanic ash. Isphording and Wilson (1974) raised a cloud of doubt over Shepard's volcanic ash identifications by suggesting a local lowland material, palygorskite, was mistaken for volcanic ash.

This proposal of the misidentification of volcanic ash as palygorskite was put forth on the basis of X-ray diffraction analysis of palygorskite and implied that Shepard did not have a firm grasp of her data (see also Jones 1984:59-60). To the contrary, Shepard was a skilled geological petrographer and a methodical technician (Morris 1974; also Shepard 1962).[2] Her analysis of archaeological ceramics was thorough, as an examination of her thin section slide files and documenting index alone will demonstrate (University of Colorado Museum, Boulder).

Given this information, it is clear that Isphording and Wilson's (1974) doubts of Shepard's capabilities and identification of volcanic ash are unfounded. Reexamination of Shepard's own slides used for her analyses, from numerous lowland Maya sites, substantiates the correct identification of the presence of volcanic ash, including glass shards, pumice, hornblende, biotite, etc.[3] Moreover, she was completely aware of the palygorskite deposits in the lowland region, and had considered this material as a possible base for the pigment "Maya Blue" (Shepard 1971; also Hathaway et al. 1969).

Simmons and Brem (1979) corrected the misleading position of Isphording and Wilson. They analyzed petrographically a number of ceramic thin sections from the central and northern Maya lowlands and generally described the nature of the volcanic ash present, in the process confirming Shepard's identification of volcanic ash. Because the Maya lowlands are composed predominantly of limestone and no deposits of fresh volcanic ash are described in the literature, they propose a model of highland-lowland trade, linking ash trade with obsidian trade between the source areas in the highlands and the

distribution zones in the lowlands (Simmons and Brem 1979:85-89). While this is a possible explanation for the presence of volcanic ash temper in lowland Maya ceramics, Simmons and Brem did not examine the quantity of ash that might have been traded and did not evaluate other possibilities.

Most recently, Lea Jones (1984), in an overview of the petrography of Maya ceramics, draws attention to the evidence for volcanic ash temper. She details the presence of volcanic ash in ancient Maya ceramics, verifying its use, to some degree, in all periods and recognizing the considerable abundance of ash in the Late Classic ceramics (Jones 1984:2, 55-84). The volume of ash tempered pottery, argues Jones, echoing the positions of Shepard (1939b, 1942, 1962) and Simmons and Brem (1979), suggests a readily available supply of the tempering material (Jones 1984:61). She is, however, pessimistic as to the possibility of identifying the ash source (Jones 1984:65-66). Acknowledging that fresh ash could not occur in ancient marine sediments, Jones feels that the ash temper was imported and follows Simmons and Brem (1979) in linking trade in volcanic ash with trade in obsidian. Beyond this, she does not pursue the implications or ramifications of volcanic ash use.

What are the implications of volcanic ash in lowland Maya pottery? Geologically, the entire Maya lowlands are composed of marine sediments older than 60 million years (Instituto de Geografico Nacional de Guatemala 1972). The core Maya area within the central lowlands is about 300 air km north of the nearest active volcanoes in the Guatemala highlands, and the nearest sources of ash are no closer than the northern Maya highlands, some 150 km from the core Maya area. Either there is an unrecorded ash deposit within the Maya lowlands, or the ash used in the ancient Maya pottery was imported.

VOLCANIC ASH TERMINOLOGY AND CHARACTERISTICS

Pyroclastic material is composed of varying proportions of vitric, crystal, or lithic particles (Fisher and Schmincke 1984:91; Williams and McBirney 1979:149). Volcanic ash (Figs. 1 and 2) is defined as pyroclastic fragments, or rocks expelled from a volcanic vent that are less than 2 mm in diameter (Fisher and Schmincke 1984). Tephra is a more general term that refers to pyroclastic fragments of any size (Thorarinsson 1974).

The vitric particles of the volcanic ash are minute fragments of volcanic glass. Ash-sized vitric particles around silicic volcanoes such as those found in Central America commonly form from the fragmentation of pumice, a

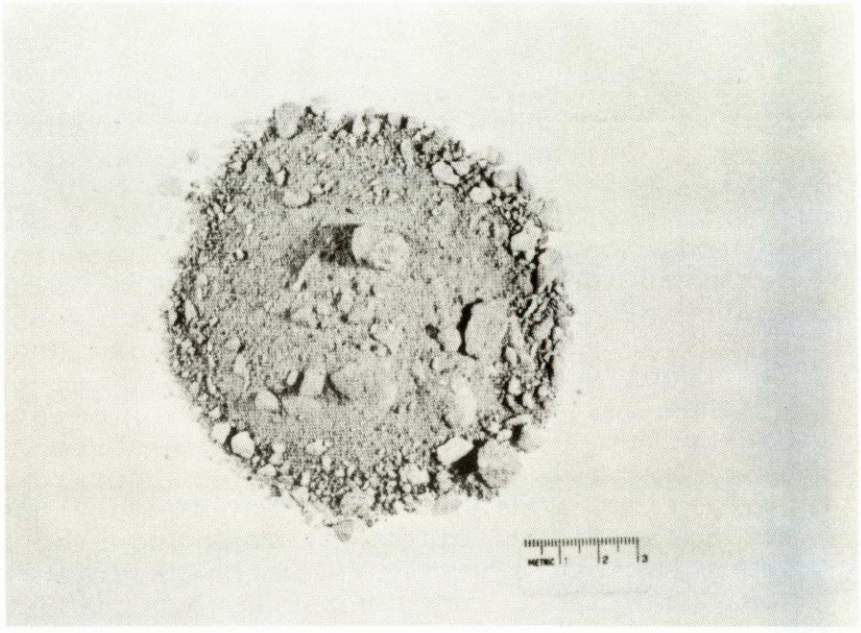

Fig. 1. Unsorted Los Chocoyos ash from the Quezaltenago valley, Guatemala.

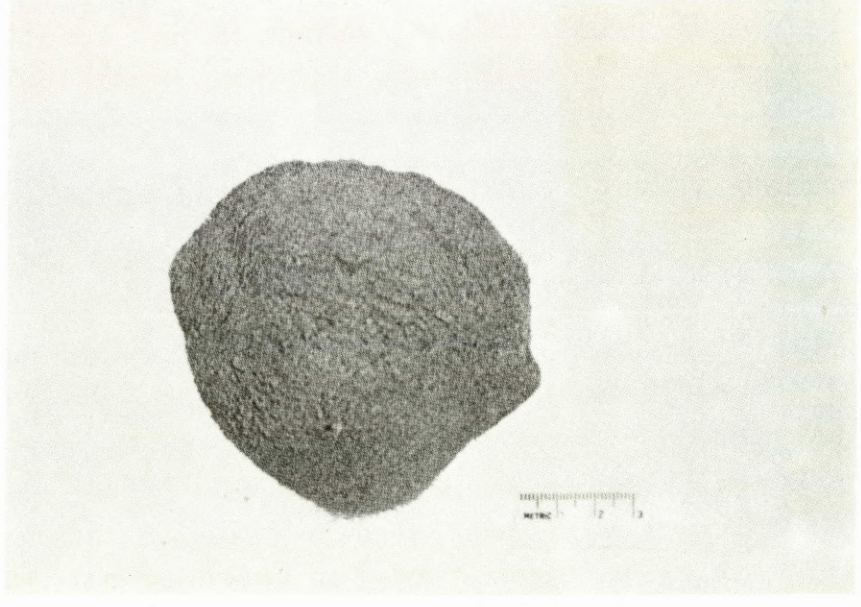

Fig. 2. Sorted Mount St. Helens ash from western Washington.

light-colored, vesicular volcanic rock that has cooled very quickly from magma and is comprised of predominantly glass and few crystals and lithic fragments. When the glass particles are fresh, they are very easy to identify with a petrographic microscope because of their characteristic shapes and their isotropic optical properties (Shepard 1964:379).

Crystals in volcanic ash around silicic volcanoes also originate from fragmentation of pumice. The minerals in pumice generally develop euhedral, or well-formed, crystals. The presence of euhedral crystals is a diagnostic characteristic for distinguishing pyroclastic material from non-pyroclastic sediments (Fisher and Schmincke 1984:103; Isphording and Wilson 1974:487).

Lithic particles are the dense, non-vesiculated fragments in a pyroclastic deposit (Wright et al. 1980). The lithics may form from non-vesiculated parts of the cooling magma or may be rock unrelated to the eruption that is incorporated into erupting pyroclastic material. Lithic particles in ash-sized material commonly consist of nonvolcanic particles or non-vesiculated glass with small crystals included.

Pyroclastic material is deposited in a number of ways (Wright et al. 1980). Pyroclastic flows (also known as ash flows or nuée ardentes) and pyroclastic surges are gravity-driven currents of pyroclastic material that rarely extend more than a few tens of kilometers from a volcanic vent. When pyroclastics are ejected into the air in an eruption column, they are moved by wind and fall through the atmosphere. The features that result are called pyroclastic fallout deposits or air fall deposits (Williams and McBirney 1979:149). Some geologists (e.g., Miller 1980) restrict the use of the word tephra to pyroclastic fallout. Fallout deposits can extend hundreds or thousands of kilometers from a volcanic vent, and they generally thin with distance (Williams and McBirney 1979:138-144; Kittleman 1979:55-61). In some cases, however, they are thin close to the vent and then thicken tens or hundreds of kilometers from the vent (Brazier et al. 1983). An example can be drawn from the 1980 eruption of Mount St. Helens, where the tephra fall thinned to less than 10 mm at 180 km from the vent and then thickened to greater than 35 mm at 300 km (Carey and Sigurdsson 1982).

Deposits of pyroclastic material can be reworked by wind, water, and biological activity so that the deposits lose their original sedimentary characteristics. In addition, the glass (vitric) particles of the pyroclastic material devitrify rapidly during weathering. Ash beds a few centimeters thick or less in tropical areas are especially susceptible to reworking and weathering. The devitrification process (Williams and McBirney 1979:146)

is analogous to the hydration process of obsidian: water is absorbed on the surface of the glass through diffusion, and the glass matrix is destroyed (Fisher and Schmincke 1984:327-329). This devitrification of the glass shards in volcanic ash has been used successfully in tephrachronology to date the deposits (Steen-McIntyre 1975, 1978). Commonly, the only remnant of weathered volcanic ash beds are the crystals of the ash, such as hornblende, plagioclase, quartz, and biotite (Fisher and Schmincke 1984:103-105).

If any volcanic ash had been deposited in the original marine sediments of the Maya lowlands, the resultant material would be completely altered or devitrified due to the extensive period of weathering (e.g., northern Belize deposit reported in Simmons and Brem 1979:82-83). Volcanic activity in the Guatemala highlands has been continual in recent geological times (Williams 1960). Fresh ash deposits are known throughout the general area, including major deposits in the highlands as well as recognized deposits in all the oceans surrounding Mesoamerica (Drexler et al. 1980; Rose et al. 1979). Nevertheless, the full extent of the terrestrial ash deposits has not been investigated.

NATURE OF VOLCANIC ASH IN MAYA CERAMICS

The ash of lowland Maya pottery is fresh and unaltered, retaining all the characteristic shapes and isotropic properties (Shepard 1964:29-380; Jones 1984:55-85). Thus, the ultimate source of the volcanic material must be significantly more recent than any conceivably found in the local limestone sediments. Volcanic ash is evident in Maya ceramics from all periods, but it is especially diagnostic in specific pastes of the Late Classic period. The Late Classic pastes demonstrate an effort to use volcanic ash as an exclusive tempering agent. This effort contrasts with earlier periods during which other materials, especially carbonates, were deliberately added or fortuitously included in the clays composing the paste.

Volcanic ash would be preferred as a temper over carbonates, which are abundant in the form of limestone throughout the lowland Maya region. Limestone decomposes into lime (CaO) at firing temperatures possibly as low as 600 degrees Celsius and, with cooling, the particles rehydrate causing expansion that can damage the vessel walls. Volcanic ash is one of the most stable additives under ceramic low firing conditions and will not alter until melting temperatures are attained, around 1000 degrees Celsius (Shepard 1964:378-381). Also, the angular shape of the ash particles confers added strength to the vessel as compared to more rounded carbonate inclusions

Volcanic Ash Tempering

(Shepard 1962; Jones 1984:60-61).

In our research, Late Classic Maya ash-tempered sherds were examined from the Tikal-Yaxha area (Figs. 3 and 4), the center of Tikal, the upper Belize River area, and from a number of lowland sites represented in Shepard's petrographic slide archives, including Uaxactun, San Jose, and Xunantunich. While some variety in the mineral composition of the sherds was noted, the majority were relatively uniform in their composition. The average glass shard size ranged from 0.15 to 0.40 mm with very little variability outside this range, indicating well sorted source material. The ash showed no signs of abrasion, which implies that it was not broken down from larger fragments. On the average, there was a 20% ash content to the sherds, although higher amounts were common. Accessory minerals included biotite in all examined specimens, quartz and hornblende in most, and plagioclase in some.

The Late Classic volcanic ash tempered pastes have a distinct fine sandy texture (see Shepard 1962; Jones 1984) and were oxidized in firing to a light color of yellowish brown to brownish yellow--10YR 7/4, 10YR 6/4, 10YR 7/6, and 10YR 6/6 of the Munsell Color Chart. The majority of Late Classic vessels with volcanic ash temper are red-slipped and make up a large portion of the basic household inventory: bowls, jars, and plates. Most Late Classic polychrome vessels (vases and plates) are composed of the same volcanic ash pastes as well.

There is no evidence of differential access to ash tempered ceramics on the basis of wealth, status, or distance from centers. In fact, evidence from the center of Tikal, the Tikal Sustaining area, the Tikal-Yaxha area, and the Yaxha-Sacnab area (our own analysis; see also Jones 1984; Fry 1969) suggests that all households in the Late Classic period had the same vessel inventories with volcanic ash temper. Specific forms characteristic of Late Classic assemblages consist of incurving bowls, narrow orifice jars, and tripod plates (Figs. 5, 6, and 7). The bowls and plates are the same serving and storing vessels discussed by Fry (1969, 1980, also Fry and Cox 1974) which are characterized as bearing "golden mica" (Fry 1969:209, 268, 1979:502) or "micaceous paste" (Fry 1980:70). These vessels reported by Fry are probably volcanic ash tempered (see Jones 1984:70), as petrographically analyzed sherds of Late Classic bowls and plates with volcanic ash have biotite, a type of mica, present. There have been no recordings of muscovite, another kind of mica, in Late Classic Maya ceramics (see Jones 1984:Chart 1; Shepard n.d.; cf. Fry 1980:7).

All volcanic ash tempered pottery is comparatively uniform in macroscopic and microscopic composition

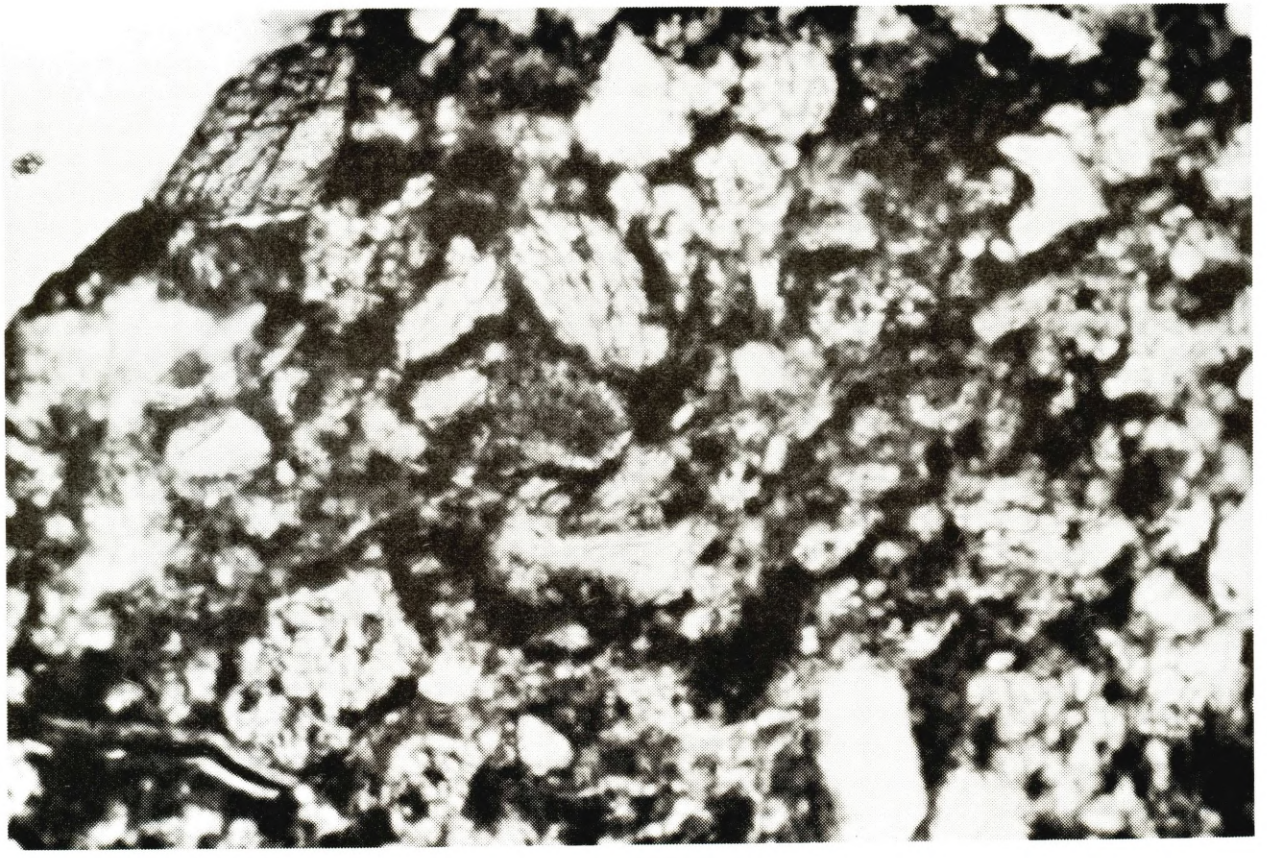

Fig. 3. Thinsection from a Late Classic bowl from the Tikal-Yaxha intersite area (catalog number 280F) with c. 30% ash content, showing angular pumice, quartz, plagioclase, hornblende and biotite in reflected light.

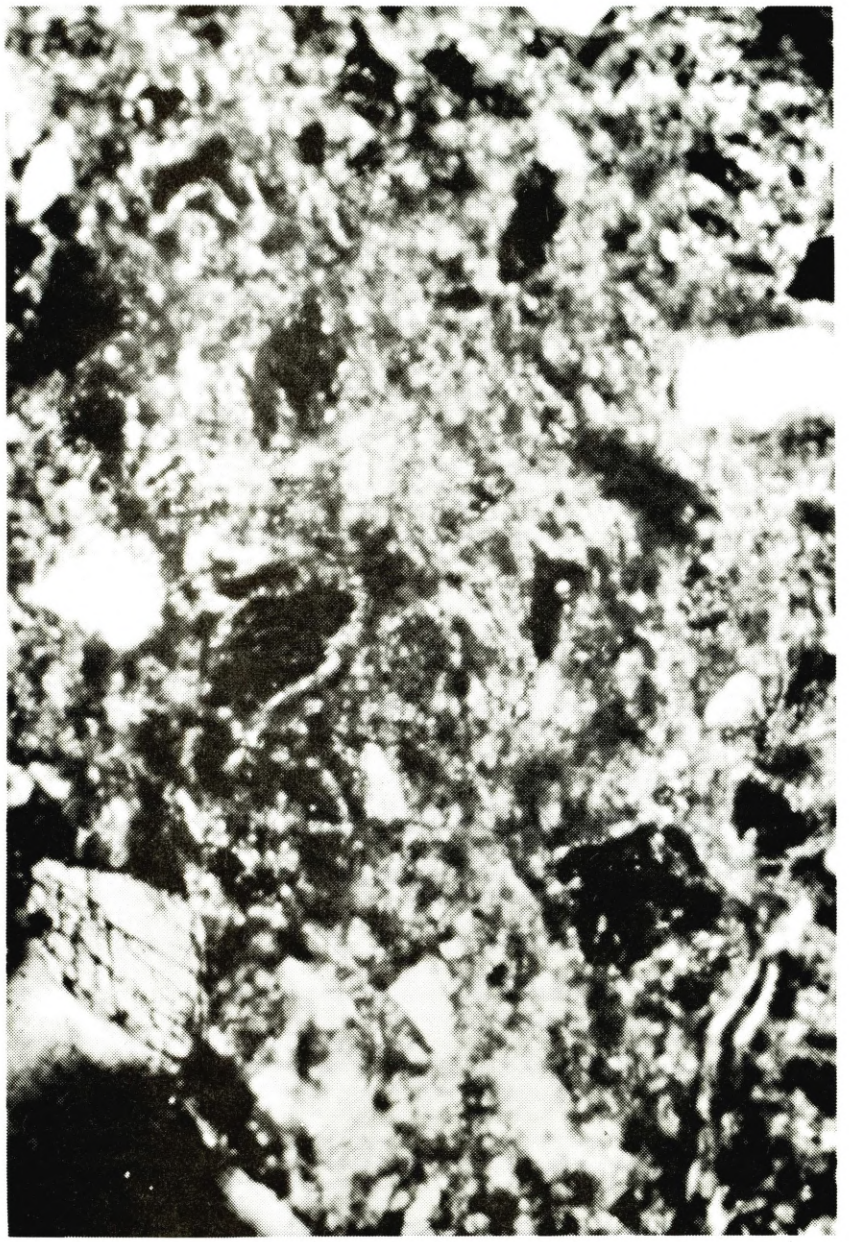

Fig. 4. Thinsection from a Lte Classic bowl from the Tikal-Yaxha intersite area (catealog number 280F) with c. 30% ash content, showing angular pumice, quartz, plagioclase, hornblende and biotite with crossed polarized light.

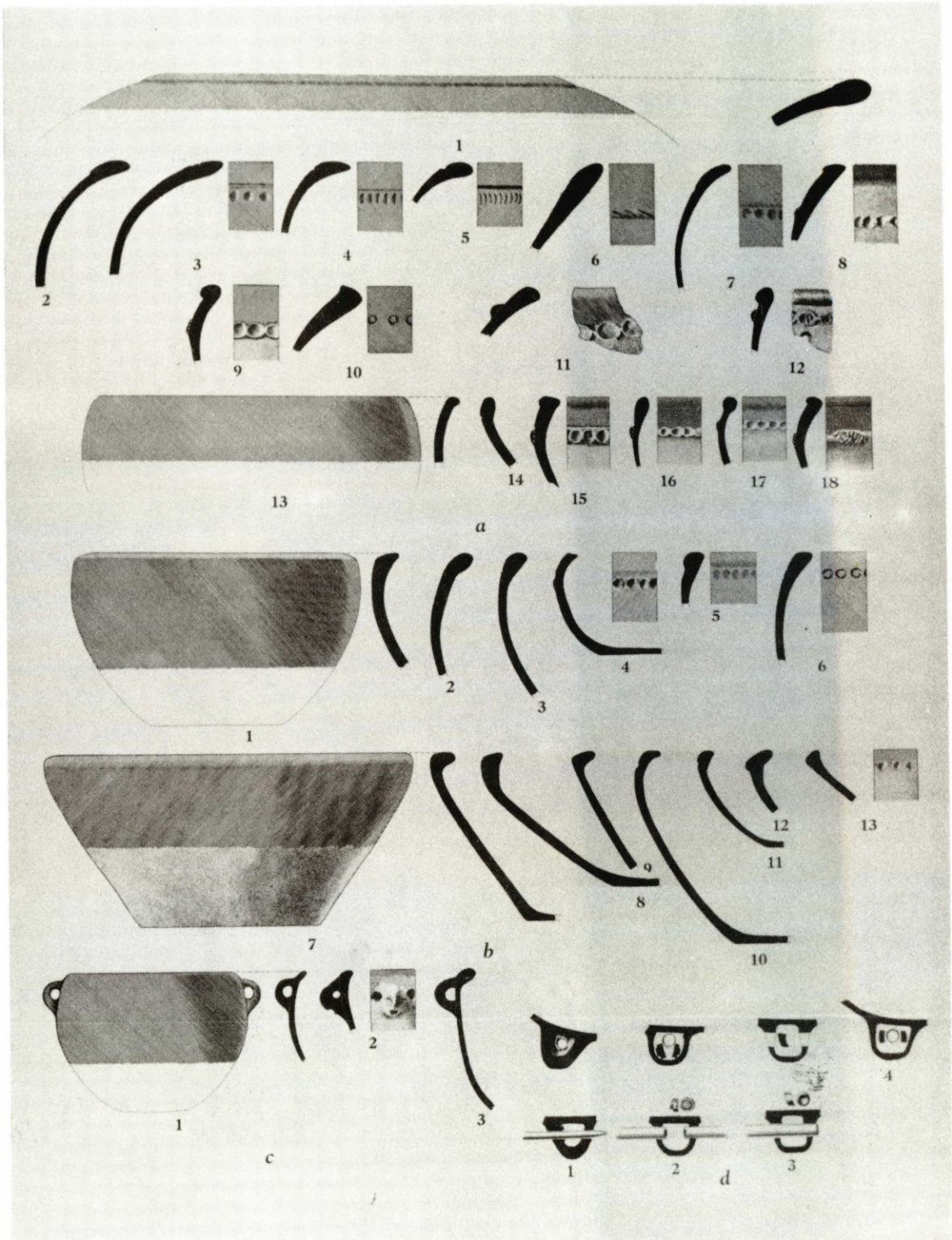

Fig. 5. Late Classic incurving bowls (after Smith 1955: Fig. 48).

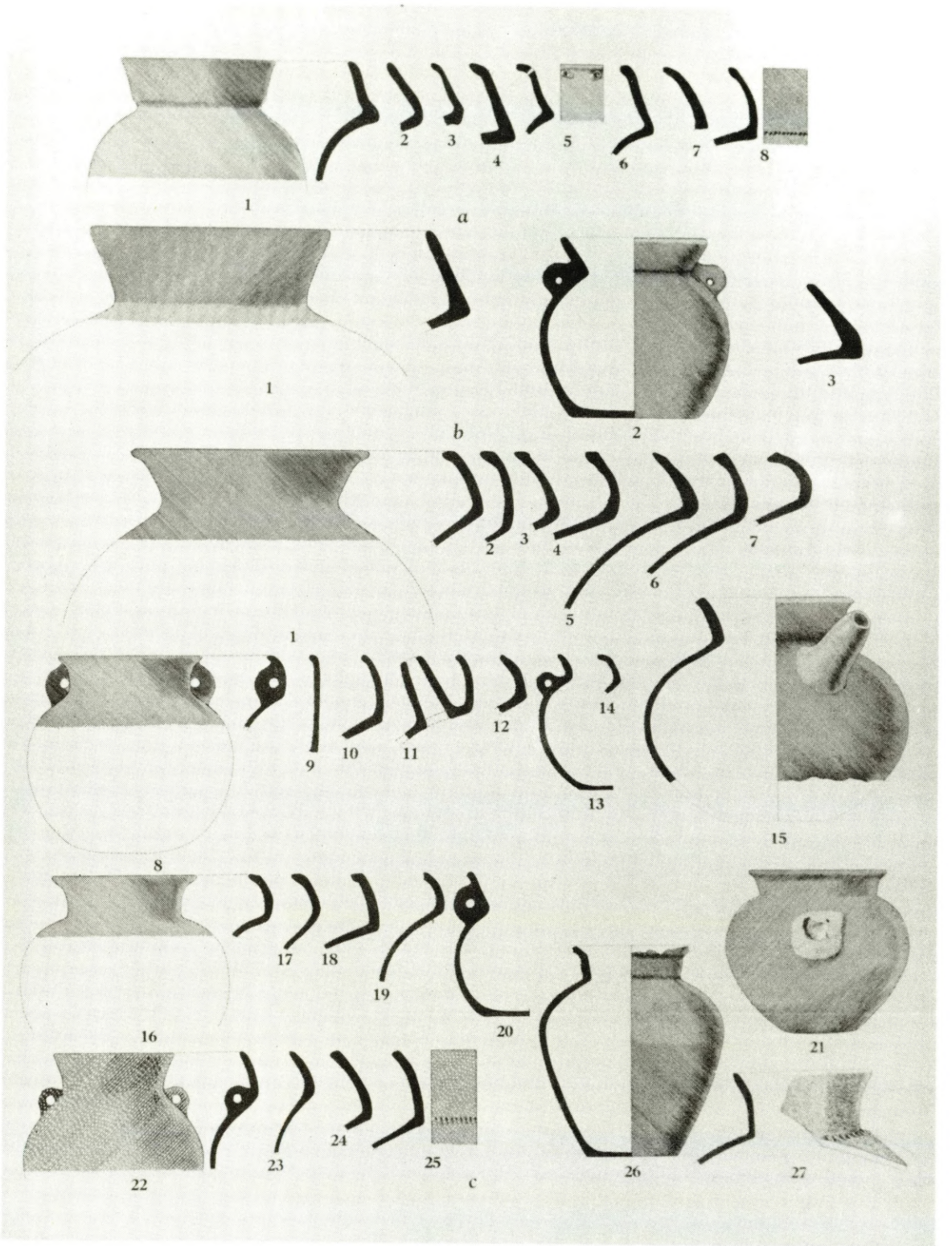

Fig. 6. Late Classic narrow orifice jars (after Smith 1955, Fig. 51).

Fig. 7. Late Classic tripod plates (after Smith 1955: Fig. 47).

(Shepard 1962; Jones 1984). If any carbonate is present, it is in trace proportions and appears to be accidental. This suggests that deliberate efforts were made to avoid the unstable carbonates in these pastes. Volcanic ash was purposely sought for the manufacture of specific vessels used in general household activities as well as more restricted elite uses. The systematic use of volcanic ash in Late Classic household bowls, jars, and plates suggests that the supply of ash was steady and dependable in the Late Classic and that the "recipe" for the paste was standardized throughout the lowlands.

In considering the source of the volcanic ash temper, it is worth considering the resource procurement limits for ceramic materials. This is important when evaluating the costs of using volcanic ash in the Maya lowlands. Arnold (1980) considers the problem in a summary of worldwide ethnographic literature on ceramic production. In this summary, he emphasizes that there are preferred procurement zones for clays, tempers, and paints used for ceramic production (Arnold 1980:148-149). Beyond the preferred zone is a maximum procurement range where returns are still greater than costs and marginal procurement ranges where returns may equal costs. Arnold found that there was variability in procurement zones for clay, temper, and paints. In 91% of the cases, clays came from within a 7 km zone (with a maximum range of 31 km), and in 97% of the cases tempers came from within a 5 km zone (with a maximum range of 25 km). Only paints were drawn from distances up to 880 km, with the majority (67%) obtained within a 40 km zone. Arnold states that the marginal procurement range for temper was 50 km in extreme cases. Beyond that distance it would not be cost-effective to use. This distance would embrace the central Maya lowland region around the center of Tikal, but is not within the range of known volcanic ash sources.

Having identified the presence of volcanic ash in lowland Maya pottery, and having recognized that the ultimate origin of ash is from volcanoes that are outside the lowland Maya region, we now turn to the problem of determining the source of lowland Maya ash temper. While this issue cannot be settled at this time, we examine possibilities that can assist in directing the resolution of the problem. We begin this quest by examining the relative quantities of ash used in the Late Classic period. This will provide a scale for considering the two alternative source locations.

First, we assume that every Late Classic period Maya household replaced one bowl, one jar, and one plate of ash tempered ware in a single year. As bowls, jars, and plates are portable and were required by every household, replacements were likely made at a higher rate than one per year (see David and Hennig 1972; Beals 1975:326-340;

Fry 1979:479; Arnold 1980; Mallory 1984:267-269). We will also assume an average weight of each vessel to be 4 kg, based on the weight of modern ceramic vessels of a size similar to the ancient Maya vessels in questions and the weight of ancient Maya sherds tempered with volcanic ash. On the basis of Shepard's petrographic analyses as well as our own [4] the proportion of ash within the vessels averaged 20%, even though some were considerably higher. Given these data, we may construct an estimate of the average household consumption of volcanic ash:

20% of 4 kg = 0.8 kg per vessel
3 vessels x 0.8 kg = 2.4 kg ash per household in 1 year

Taking the total area of the central lowlands as 10,000 sq. km (100 by 100 km around Tikal), estimating 200 persons per sq. km in the Late Classic (cf. D. Rice 1976:276), and assuming that six persons compose the average household, we find:

333,333 households x 2.4 kg ash per household =
ca. 800,000 kg of volcanic ash consumed per year

If the average individual can carry 40 kg, each carrier would bring a supply of ash that would satisfy the annual consumption needs of an estimated 17 families (0.04 cu. m of ash). [5] This translates into 20,000 40-kg bags of volcanic ash (800 cu. m) per year or 1,667 40-kg bags (67 cu. m of ash) per month consumed within the central lowland region. It may be recalled that this estimate includes only vessels made for domestic consumption, and not other items such as vases which were also made of volcanic ash pastes. Clearly, the Late Classic period use of volcanic ash was voluminous (see also Jones 1984:61).

This estimate of volcanic ash consumption provides us with a means of gauging its importance in the production of specific household pottery vessels. These computations have been useful in understanding the degree of dependence on volcanic ash supplies in the Late Classic. If the population density was only 100 persons per sq. km and the consumption of ash was only 1.2 kg per household, demand for ash in pottery production would still be high--200,000 kg of ash (200 cu. m) per year or 5,000 40-kg bags per year. Hence, it is not the absolute amount but the relative quantities that are worth considering.

By any standard, volcanic ash demand in the Late Classic was high. Far from being socio-economically restricted in distribution, ash tempered ceramic forms were standard utility vessels, employed at the basic household level and replaced at a high level (ca. 41% of midden sherd collections around Tikal; Fry 1979:496, 1980:5). Ash tempered pottery was not rare in the Late Classic; on the contrary, its absence is rare.

SOURCE OF VOLCANIC ASH TEMPER

Exotics are always specialized in their use and restricted in distribution. The quantity of volcanic ash temper in Late Classic Maya household ceramics finds no parallel in other obvious long distance trade items. Unlike the ceramics with volcanic ash temper, exotic items such as obsidian are not as generally available and are not clearly employed in ordinary household ways.

Even though obsidian appears accessible to most households, the relative frequencies or densities are very low (Sidrys 1976). The highest overall Late Classic obsidian densities in the central Maya lowlands were found at Tikal, and even then they were only 15.3 gm/cu. m. In the residential zone between Tikal and Yaxha the average obsidian density is 2.7 gm/cu. m. These low densities of obsidian are contrasted with the fact that most of the fine household wares of the Late Classic were tempered with volcanic ash (see Fry 1969:209, 1979:502; Jones 1984:20-21).

If volcanic ash was a long distance import into the lowlands, transport costs would include the major movement between the Maya highlands and lowlands and the internal lowland Maya regional exchange. If the volcanic ash source was available within the lowlands, there would only be the costs of the local exchange. Either way, large amounts of volcanic ash, destined for tempering in Maya pottery, were regularly employed in ceramic production in the Late Classic period.

Long-distance trade in volcanic ash is conceivable when one recognizes that there are major waterways originating in the highlands on the east and west of the central Maya lowlands. The possible sources of volcanic ash would be about 150 km distance from the majority of lowland consumers and would be transported via water and land to the lowland distribution centers. On the east, water transport within the barrier reef, along the coast of Belize, and up the Belize River would bring goods within a three day walk of Tikal. The western rivers, draining directly from the highlands, would bring goods within a four-to-five day walk of Tikal. Both routes put the procurement distance beyond Arnold's (1980) marginal range, implying the importation of volcanic ash was uneconomical. The prehistoric lowland Maya, however, may present an unusual case when ceramic material needs are considered. The poor quality of the local alternative carbonate temper sources compared with the potential benefits of volcanic ash as a stable tempering agent could have been sufficient incentive to support long distance importation.

If there are ash deposits in the Maya lowlands, their origin must have been from eruptions of volcanoes outside the region, because there were no volcanoes active in Quaternary times within the lowland Maya area. There are, however, many volcanoes throughout Mexico and Central America that have produced air fall tephra that may have blanketed the lowland Maya region and, thus, provided a local source of volcanic ash. The Los Chocoyos ash, erupted from the Atitlan caldera in the Guatemala highlands about 84,000 years ago, is chemically correlatable with ash beds found in deep-sea drill cores in the Gulf of Mexico and the Caribbean sea, suggesting that the Maya area was covered with 1-10 cm of siliçic tephra about 84,000 years ago (Drexler et al. 1980). Most recently, the 1982 eruption of El Chichon in Chiapas, Mexico, deposited a light dusting of ash over the Maya lowlands (Carey and Sigurdsson 1986; also personal observation). There are also many documented Pleistocene eruptions in Guatemala that produced more than 0.1 cu. km of tephra (Rose et al. 1981), and many of these probably also blanketed the lowland Maya region. It is likely that many undocumented Holocene eruptions produced tephra blankets widely dispersed enough to have covered the lowlands.

Geological field work in Belize in 1983 failed to locate any deposits of volcanic ash with abundant fresh glass shards such as those found in the Late Classic vessels. Stream and lake sediments from throughout Belize as well as middens from excavation by the Belize River Archaeological Settlement Survey in the Belize River area were examined with binocular and petrographic microscopes. Nevertheless, euhedral crystals of hornblende are present in stream sediments. These may be remnants of pyroclastic fallout deposits in the area, the tropical weathering having broken down the vitric particles that form the major component of ash.

The mineralogy of the volcanic ash temper of ancient Maya pottery is consistent with ashes that were erupted from volcanoes in northern Central America (Rose et al. 1981). Consequently, it is possible that an as-yet-undocumented eruption or eruptions of one or more volcanoes outside the lowland Maya area deposited layers of air fall tephra in the lowland Maya area. The ancient Maya could have collected this material for use as ash temper before it was reworked, weathered, and incorporated into the soil. The euhedral hornblende present in sediments in Belize is likely a relic of such tephra layers.

The Los Chocoyos ash mineralogy (Rose et al. 1979) correlates with that of the Late Classic ash-tempered ceramics (e.g., Fig. 3 and 4). However, this ash could only be the source of the ash temper in Maya pottery if it

was imported into the area from the highlands. The Los Chocoyos deposit is about 84,000 years old and the 1-10 cm of Los Chocoyos ash fall in the Maya lowlands must have been reworked and weathered within a few thousand years of deposition. As a consequence, it would not have been available as fresh, unaltered ash in the Maya lowlands during the Late Classic period.

A well-known ash deposit called the "tierra blanca joven" or "tbj" tephra erupted ca. 260 AD from the Lago de Ilopango basin in central El Salvador (Hart and Steen-McIntyre 1983) and could have been available in the Maya lowlands during the Late Classic period. However, this cannot be the source of the ash temper, because the mineralogy is very different. The "tbj" tephra lacks quartz, which is present in abundance in the ash tempered Maya pottery, and the "tbj" tephra includes clinopyroxene (Hart and Steen-McIntyre 1983), which is not present in any of the ash tempered pottery of the Maya lowlands.

Currently, with no known fresh volcanic ash deposit within the lowland Maya region, it is difficult to determine how the ancient Maya may have procured their volcanic ash for ceramic temper. The quantity of ash used in the Late Classic period points to a local source, given the knowledge of procurement strategies of potters (Arnold 1980). Minerals and crystals of pyroclastic origin have been identified in the alluvial deposits of Belize, indicating that local air fall deposits of volcanics have occurred in the past. Also, pumice has been collected off the coast of Belize within the protected waters of the barrier reef (Nicolait 1984, personal communication) and has been excavated from archaeological deposits (Fig. 8) on Moho Cay (McKillop 1980, personal communication). This could have been collected and ground up for temper. It is unlikely, however, that pumice is the source of the volcanic material of central lowland Maya pottery. Experimental grinding of large pumice pieces collected in the coastal waters of Belize demonstrated that pulverized or ground volcanic glass appears abraded microscopically, and there are no free ash shards (see discussion in Shepard 1962, 1964:379) as identified in the Late Classic ceramic thin sections.

The object now is to develop a comparative study of the extent of volcanic ash use in ceramics of the central Maya lowlands and beyond. This should begin with a standardized description of the mineralogy of the ash tempered ceramics followed by a correlation of the mineralogy and chemistry of the glass and crystals with known volcanic ash descriptions from the highlands of Guatemala.[6] Tephra hydration measurements on the glass shards of the pottery temper could be attempted and may prove useful in associating tephra deposits with the ash temper (Steen-McIntyre 1978, 1981). These analyses would

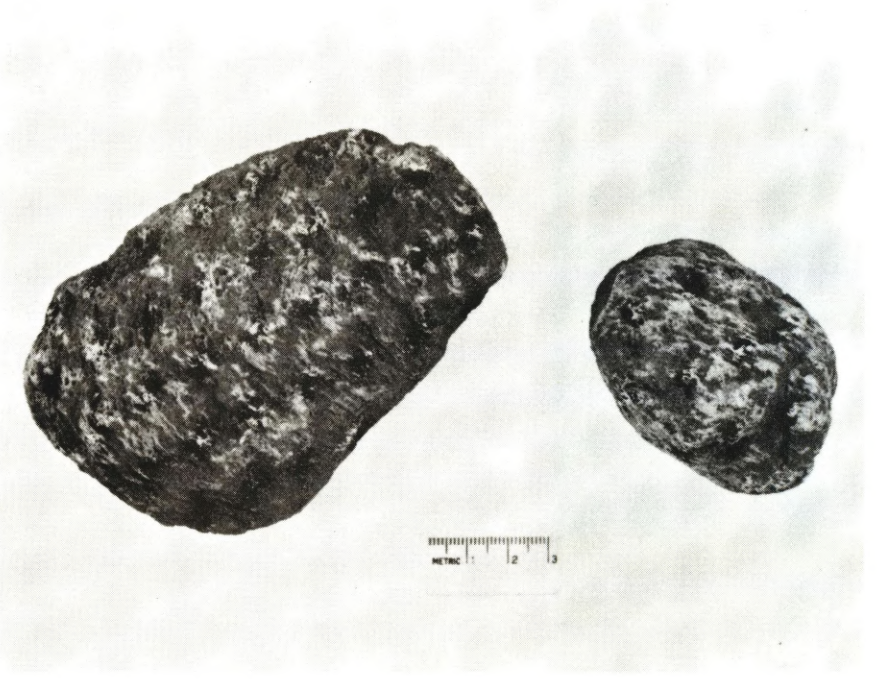

Fig. 8. Pumice from the archaeological deposits at Moho Cay (excavated by H. McKillop).

narrow the possibilities of source volcanoes and ash deposits and could provide clues to the origin--local or long distance--of the volcanic ash used by the Late Classic period Maya.

CONCLUSIONS

In summary, fifty years ago Anna O. Shepard identified a significant issue in the production of Late Classic period household vessels: the use of volcanic ash temper. This issue has been largely left dormant and the implications uninvestigated. We have resurrected it here in an effort to draw attention to the magnitude of the problem and encourage more research toward its resolution.

In examining the data in their preliminary form it is clear that large quantities of volcanic ash were used regionally in Late Classic household ceramic wares. The projected annual consumption over 300 years translates into an ash deposit of at least 1,200 ha. and 2 meters thick or a 1 cm deposit over a 25 sq. km area.[7] Volcanic ash, if it exists within the lowlands, is certainly in discrete locations, as settlement and geological surveys in the central Maya area have failed to encounter such deposits. It is unlikely the ash was derived from pumice, known to be occasionally available on the coast of Belize and Yucatan. The presence of a regional lowland volcanic ash source would most parsimoniously account for the extensive distribution of ancient Maya ceramics with volcanic ash temper. On the other hand, the advantages of the use of volcanic ash as temper may have provided the incentive for long distance trade. Regardless of the source location, trade and exchange of volcanic ash temper figures prominently in the Late Classic period.

Acknowledgments

This paper is the result of the help of many. An introduction to the importance of petrography is credited to the geologists in the Department of Geology, UCSB. Immeasurable assistance was freely given by Diana Kamilli, who spent much time with me over Shepard's slides. Partial funding was given by sigma Xi for thin sections. Through this work, we have gained a great respect for Anna O. Shepard.

Notes

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[1] Isotropic materials diffract light such that they appear black through a microscope with crossed polarized light.

[2] Ford has interviewed a number of individuals who knew Anna O. Shepard personally. All these individuals worked with her as archaeologists and geologists: J. Boles (1979) Professor of Geology, University of California at Santa Barbara; W. Towenhoffel (1980) U.S. Geological Survey, Special Projects, Denver, Colorado; V. Broman de Morales (1985) archaeologist, Guatemala City; M. Bullard (1980) anthropologist and historian, New Bedford, Ma.; E. Shook (1981) archaeologist, Antigua, Guatemala.

[3] Specific slides of central Maya lowlands ceramics from Anna O. Shepard's archives at the University of Colorado, Boulder are noteworthy as they represent examples of volcanic ash tempering. These include the following catalog slides: San Jose: 1838, 1840, 1912, 1913; and Uaxactun: 2527, 2582, 2105

[4] Our analysis was aided by a number of professionals. We thank Jim Boles (Geology, University of California, Santa Barbara), Mac Beggs (Geology, University of California, Santa Barbara), and Diana Kamilli (University Museum, University of Colorado at boulder) for their valuable assistance.

[5] Ash volume was computed based on samples of ash collected in 1981 in the highlands of Guatemala and on Steen-McIntyre (1978:24) and Shipley (1983:31).

[6] Studies focused on the more recent eruptions are currently being assembled by Rose and others and will provide an important basis for this comparison.

[7] An average eruption of silicic ash discharges around 1 cu. km of material, larger eruption can eject as much as 16-24 cu. km (Williams and McBirney 1979:148).

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21

Southeast Maya Polychrome Pottery: Production, Distribution, and Style

Marilyn P. Beaudry

The southeast Maya area has been delineated in various ways by scholars using different criteria and focusing on different time periods. Generally, however, there would be agreement that Copan and Quirigua were major population centers that, during the Late Classic period (AD 650-850), manifested the hallmarks of the Maya culture. Taking those two centers as focal points, I broadly define the southeastern Maya area as that shown in Figure 1 for the period with which I will deal. Also shown in that figure are adjacent areas beyond the Maya zone.

POLYCHROMES IN THE SOUTHEAST MAYA AREA

With respect to an operational definition of "polychrome," this category of ceramics includes those that Fry (1979:496) termed "serving vessels"--a functional category that neither presupposes a restriction in availability to a certain segment of the society nor assumes characteristics of production or distribution. Within that class "polychrome" indicates the use of three or more pigmented materials as surface decoration. Usually this involves the use of a slip plus at least two different colors of paint. Theoretically, three paints could be used on an unslipped surface but that occurs very seldom, if ever, on serving vessels. Implicit in the polychrome classification in the Maya area is the use of design motifs to decorate the vessel, rather than the application of only solid areas of color.

Within the southeast Maya area, a polychrome tradition is most clearly seen at Copan, because in the Late Classic Quiriqua neither produced polychrome serving vessels nor imported this type of ceramic in significant quantities. Thus the focus of the discussion is Copan

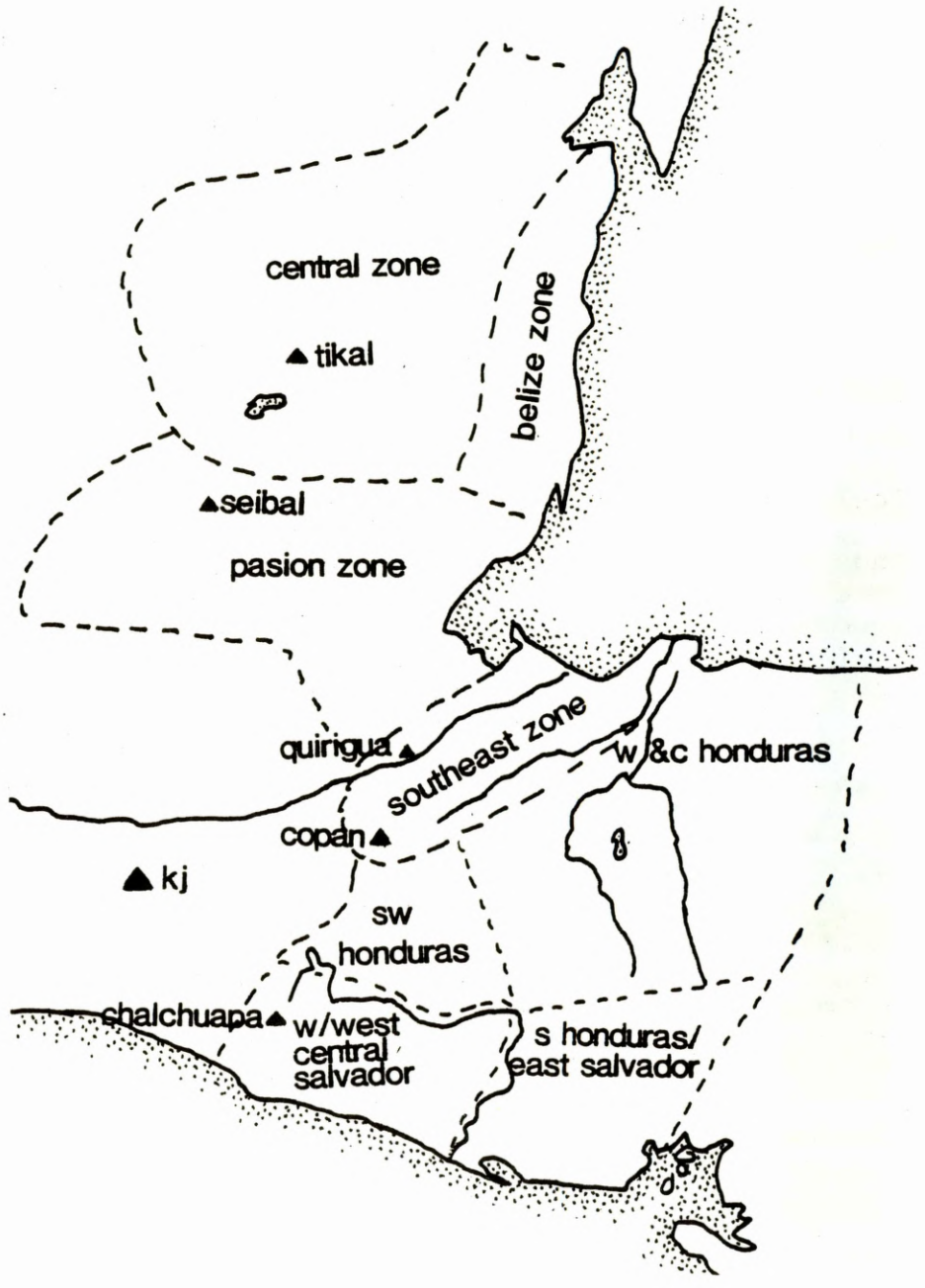

Fig. 1. Southeast Maya zone and adjacent areas.

ceramics and is confined to Late Classic period polychromes. There are examples of Early Classic basal flange polychromes at Copan--Viel (1983:509) identified 93 sherds of Dos Arroyos group in his stratigraphic sequence--but the quantity is so limited that the issue of whether these were locally made or imported is unsettled. Three main polychrome ceramic units occur in the Late Classic Coner complex at Copan: the Copador group, Gualpopa group, and Caterpillar type. Additionally a closely allied red painted resist decorated group, Chilanga Red painted Usulutan, also is found in Coner contexts. Three of these groups (Copador, Gualpopa, and Chilanga) include closely related types and varieties fully described by Sharer (1978) based on their occurrence at Chalchuapa. A summary description of these groups and of the Caterpillar type, based on Copan excavations, is provided by Viel (1983).

A brief review of the identifying attributes for each ceramic group follows:

Copador: 1) specular hematite or deep purple, red, black, and usually orange paint on a cream or orange slipped background; 2) glyphic, human, bird, and geometric motifs; and 3) fine cream to light "buff" paste (10YR 8/3; 7.5YR 8/4), soft and fine in texture.

Gualpopa: 1) red (not specular hematite) and black paint on an orange to orange-cream slipped background; 2) simple animal and geometric motifs (similar to Chilanga but with additional black paint used as an outline or fill); 3) cream to light "buff" fine paste (10YR 8/3; 7.5YR 8/4); 4) convex wall (hemispherical) bowl as the dominant shape; and 5) interior often left undecorated.

Caterpillar: 1) shallow, thick walled dishes on high tripod supports; 2) heavy line decoration usually in specular hematite red and black paint; 3) simple glyphs and monkeys as frequent motifs; and 4) orange paste (7.5YR 6/6, 6/8), rather coarse in texture.

Chilanga: 1) red paint over an orange slip with Usulutan decoration; 2) simple red geometric designs and monkey motifs on the exterior; fine line or "blotchy" Usulutan on interior; 3) dominant shape of open bowl; and 4) soft cream to light "buff" paste (10YR 8/3; 7.5YR 8/4) like Copador and Gualpopa.

Extensive trace elemental analysis of southeastern Maya ceramics showed that the cream paste painted serving vessels (Copador, Gualpopa, and to a lesser extent, Chilanga) were from a restricted production area, most likely the Copan valley (Beaudry 1984; Bishop et al., in press; Bishop and Beaudry n.d.). Production was not confined to a few large workshops; both subtle paste

differences and decorative variability suggest smaller production units (Beaudry 1984).

Turning to distribution, a detailed review was carried out of all known sites with Late Classic occupation in Honduras, El Salvador, and parts of Guatemala (the semiarid eastern lowlands, Santa Rosa, and parts of Izabal that include the lower Motagua valley) (Fig. 2). Sites, identified according to the presence or absence of Copador, were plotted and the distribution pattern analyzed. The results showed strong directionality of distribution from the Copan area. Beyond a 50 km radius from Copan the long distance distribution was strongly associated with settlements in western and central El Salvador, as well as with some loci in the mountainous region near the Guatemala-El Salvador border. It is interesting to note that several Guatemalan sites with Copador are near the large Ixtepeque obsidian source used in precolumbian times.

The El Salvador "connection" has frequently been commented on from general impressions of ceramic assemblages. (See Beaudry 1984:24-29 for a summary of the archaeological history of Copador's reputation as a trade good.) The site-by-site analysis objectively confirmed these impressions. It also reinforced the estimates of the quantity of Copador that was moved. Although the analysis was done on a presence/absence basis, 41% of the known sites with Late Classic occupation had Copador ceramics. This does not include isolated finds or materials described as "Copador-like" (Beaudry 1984:215).

COPADOR POLYCHROME

Copador has been described as a development out of Gualpopa and less directly from Chilanga (Sharer 1978:51-52, 118; Viel 1983:520). Copador certainly is a part of the same paste ware tradition but I believe there are more differences than are usually acknowledged between Copador and the other cream paste ceramic groups.

As potters engage in their craft, they make a number of decisions which are reflected in the final product. After the selection of raw materials and before the firing of the pottery, decisions are made about the shape of the vessel, paints to be used for decoration, the spatial organization of the design field, and design elements to be employed in the decoration. The cream paste ceramics will be reviewed in terms of these four sets of production decisions that can result in distinct pottery styles.

Form or Shape

The shape frequencies are different within the three

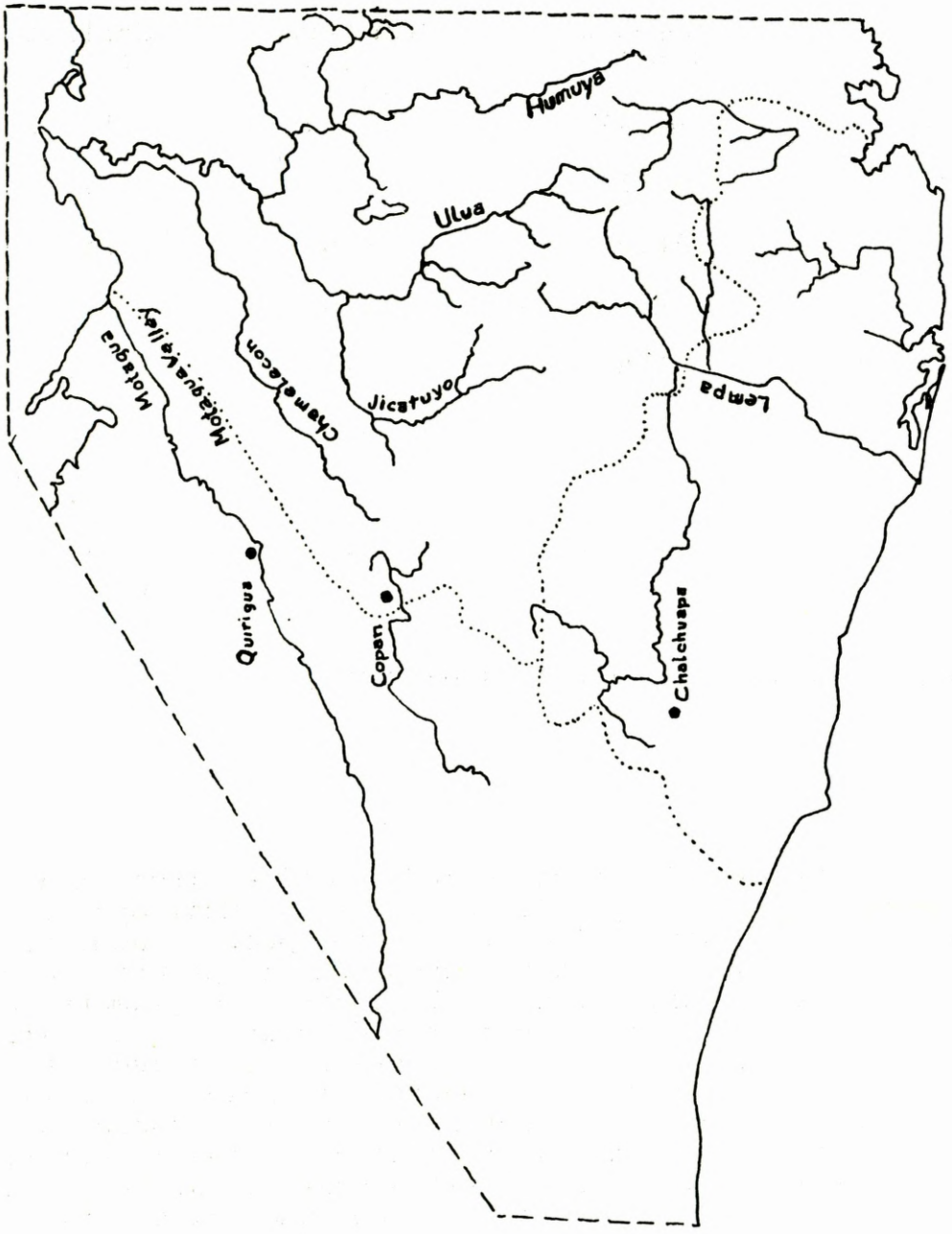

Fig. 2. Geographic area in which Copador distribution analysis was done.

groups. Copador has a recurved bowl form more often than does Chilanga or Gualpopa (Table 1).

Table 1. Percentages of Shapes of Cream Paste Painted Serving Vessels.

Shape	Copador (n=167)	Gualpopa (n=63)	Chilanga (n=41)
Recurved bowls	40.1%	11.1%	19.5%
Open bowls	27.5	61.9	39.0
Vases	16.8	19.0	14.6
Jars	4.2	1.6	4.9
Other bowls*	7.8	--	2.4
Cups	2.4	6.3	9.8
Dishes	1.2	--	7.3
Plates	--	--	2.4

*Markedly incurving, flared, or outcurving

Paint

Copador bears a distinctive red hematite (iron oxide) paint with specular particles in it. Gualpopa and Chilanga use the more widespread non-specular hematite material. Both specular and non-specular paints were prepared the same way, that is, by adding the pigmenting or coloring material to clay that had basically the same composition as the body of the vessel to be decorated (Beaudry 1985a). Thus the change in paint material between ceramic groups does not represent a technological change but rather the introduction of a new raw material. Specular hematite makes its first appearance at Copan in the Acbi complex (Early Classic) on the minor type, Sovedeso Negative Painted (Viel 1983:517). The paste of Sovedeso is described as "beige or orange, reminiscent of that of Izalco Usulutan" (ibid.). The Caterpillar type, which is first seen in the late Acbi and early Coner phase, also utilizes specular hematite pigment.

Spatial organization of the design field

In examining this aspect of ceramics, it is important to hold form constant because shape has an obvious influence on how the available space is conceived and utilized. This sample size is limited and only the open bowl form is well-represented in the three cream paste groups.

With respect to the exterior design field, there was general congruence across the groups in terms of the overall orientation of the design field. That is, surfaces were systematically divided into rim areas, wall register, and exterior base. However, several differences occur:

1.) Copador open bowls more consistently are divided into two exterior registers than are either Chilanga or Gualpopa (Table 2).

Table 2. Spatial Organization of the Exterior Decorative Surface of Open Bowls (Cream Paste Serving Vessels).

# registers	Copador (n=46)	Gualpopa (n=27)	Chilanga (n=14)*
One	17.4%	33.3%	57.1%
Two	80.4	66.7	42.9
Three	2.1	--	--

*Not recorded for spiral bowls

2.) Chilanga, and to a greater extent Gualpopa, sometimes employed a different design pattern. This layout is referred to as a "spiral" (Longyear 1952:58) and uses the entire exterior field from the lip onto the convex base of a bowl as one continuous area for decoration (Fig. 3). It has not been encountered on a Copador vessel.

With respect to the interior design field, the differences among the groups pertain to decisions whether or not to decorate the interior wall and base of the vessel. Interior rim bands were used on all the open bowls of the three cream paste groups. Copador open bowls were much more frequently decorated with painted designs than were either Chilanga or Gualpopa (Table 3). This variation in interior decoration is not due to shape considerations because height and rim diameters are roughly equivalent in the three groups.

Fig. 3. Spiral bowl layout, Chilanga and Gualpopa types.

Table 3. Treatment of the Interior Wall of Open Bowls (Cream Paste Serving Vessels).

Interior wall	Copador (n=46)	Gualpopa (n=27)	Chilanga (n=14)
Painted motifs	40	5	--
Usulutan decoration	0	3	--
Plain slipped	6	17	14
Obliterated/missing	--	2	--

Design Elements

Very few design elements found on the exteriors of Copador vessels are used on either of the other two cream paste ceramics (Tables 4 and 5). As can be seen, only Glyph C (Longyear 1952:61) is shared by Copador and Gualpopa while a monkey representation occurs on all three types. The designs most frequently and closely associated with Copador--glyphs other than C, seated figures, swimming or reclining figures--do not have precedents in either Gualpopa or Chilanga. Illustrations of all of the design elements can be found in Beaudry 1984, Appendix E.

Table 4. Exterior Decorative Motif Combinations, Copador and Gualpopa Types.

Exterior registers	Copador (n=46*)	Gualpopa (n=27)
Glyphs (A, B, C)	35	--
Glyph C, alone or in combination	--	6
Swimming figures	15	--
Monkey, alone or in combination	4	1
Geometric design	8	--
All other motifs	4	--
Bird, alone or in combination	--	2
Complex U shapes	--	9
Other, one motif	--	6
Other, more than one motif	--	3

* Totals more than 46 because of different motifs on two-register vessels

Table 5. Exterior Decorative Motif Combinations, Chilanga Type.

Motif combinations	Register 1	Register 2
Discrete linear or solid painted areas	4	1
Continuous linear	4	4
Simple discrete shape	4	3
More complex geometric shape	1	--
Monkey	1	--
One register only	--	6

The much more frequent use of painted decoration on the interior of Copador open vessels than on Gualpopa has already been mentioned. Among the few Gualpopa vessels that are interior-decorated, 80% use a bird motif; on Copador open bowls, however, glyphs are utilized more often than birds, while on Copador recurved bowls are more common than glyphs and the form of the bird is different (Fig. 4). The motifs on Caterpillar plates include monkeys and Glyph C, both of which are shared by Copador and Gualpopa. Also, another non-cream paste polychrome should be mentioned, i.e., Arambala, often called "false Copador" and first fully described at Chalchuapa (Sharer 1978:56-59). The strongly modal shape of this type is the recurved bowl (70.3%, 26/37). A cluster analysis done in conjunction with a design study of these painted types showed that a sizable Arambala group combined the same set of decorative variables as in one Copador cluster (Beaudry 1984:192-193). Thus, it seems that Arambala is imitative of Copador as previously suggested by Longyear (1952:64) and Sharer (1978:58) and does not strongly relate to Gualpopa (Viel 1983:583).

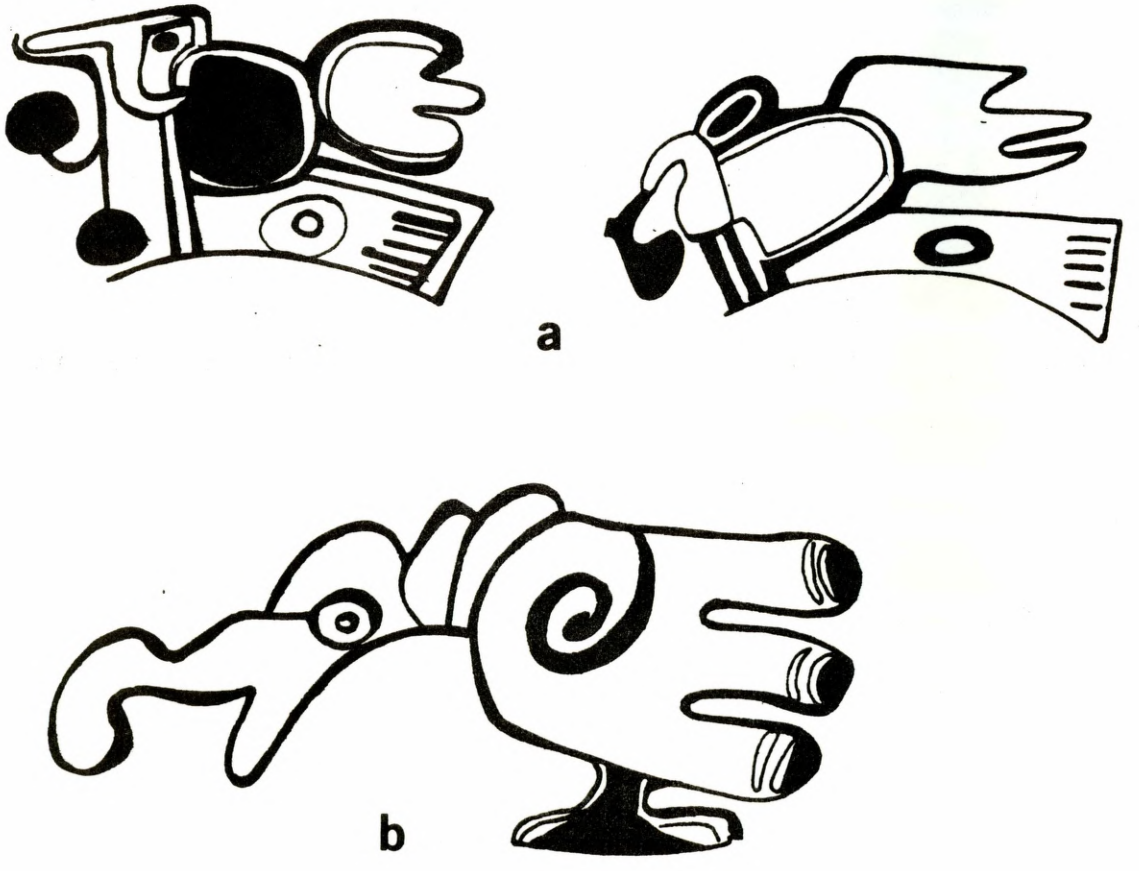

Fig. 4. Bird design used on Copador bowls: a) variety used on recurved bowl interior; b) variety used on open bowl interior.

If Copador did not gradually evolve from the cream paste styles already in the Copan valley, from where did its inspiration come? I believe that this boldly decorated, easily identifiable type was deliberately created for use in the Copan valley and for export away from the political and cultural center of the Maya zone. The style was not a total disjunction in ceramic tradition nor so radical as to preclude its acceptance by potential customers. First, Copador continued the cream paste tradition, well-established in the southeast periphery. Then it capitalized upon the distinctive hematite pigment that had recently been discovered or made available by trade. It utilized a few known designs--the monkey and Glyph C--but expanded the design repertoire with motifs that had a "legitimacy" of association with Maya artistic and epigraphic traditions: glyphs, richly adorned seated figures, and elongated human representations.

With respect to glyphs, Longyear (1952:60-62) discusses each of the "standard" glyphs on Copador pottery in some detail and looks for analogs in the codices. There may have been some intended meaning in these designs but I think it more likely that the associated idea of Maya social identification was being signalled by glyphic use. A similar example of pseudo-oriental characters can be found on export artware today.

The basic concept of a seated human figure can be found on polychrome ceramics from various parts of the Maya area as well as on some carved monuments. Several aspects, however, distinguish those on Copador vessels. For example, they are not found on open bowls and only infrequently on cylindrical vases. Their provenience is the upper register of the recurved bowls where in almost all cases they face to the right. Other distinguishing characteristics include the fact that they do not face each other to form any kind of "scene" and that they are pictured in a forward-leaning pose with the upper torso usually bent rather sharply from the waist.

Other characteristics, such as the frequently exaggerated, gesturing hands, the presence of elaborate "double U" elements in front of the figure separating him from the next individual, the "beads" that extend down the back, wristlets, etc., are all standardized to achieve the effect of what Longyear called "the Copador man."

Several depictions of similar seated figures have been observed but not from contexts with clear temporal priority: one from Lagartero and two from Zacualpa (Figs. 5 and 6). More detailed work needs to be done evaluating the costume elements, the pose, and other features of these motifs. It would be tempting to see the forward-leaning Copador pose as a convention adopted because of the vessel shape, that is, the upper torso is angled

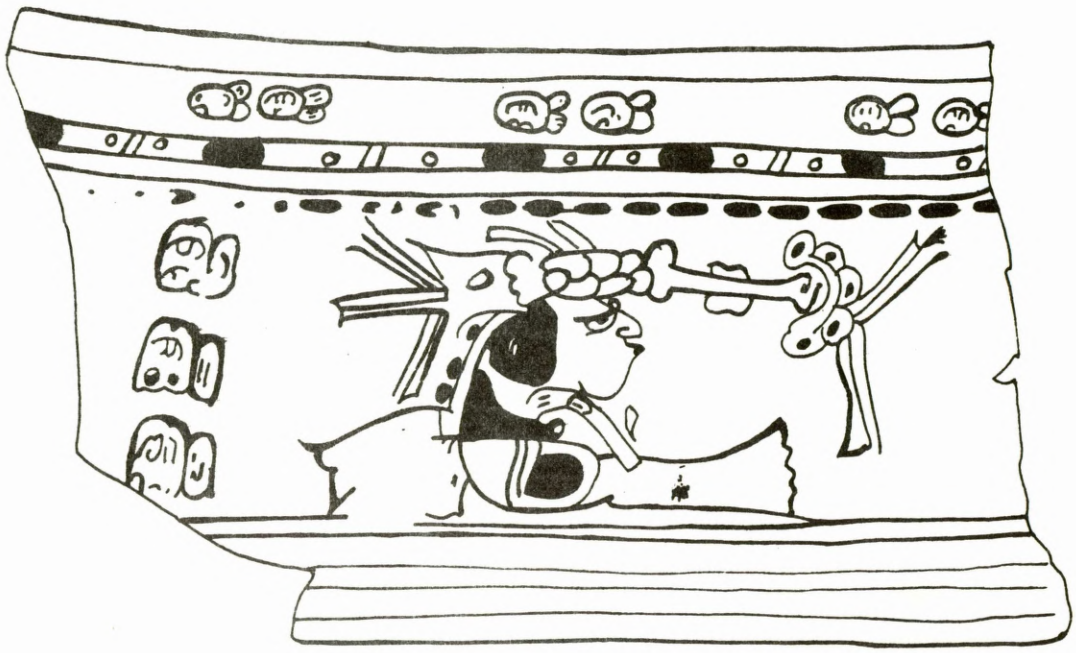

Fig. 5. Seated figure, Lagartero orange polychrome cylinder (after Ekholm 1977).

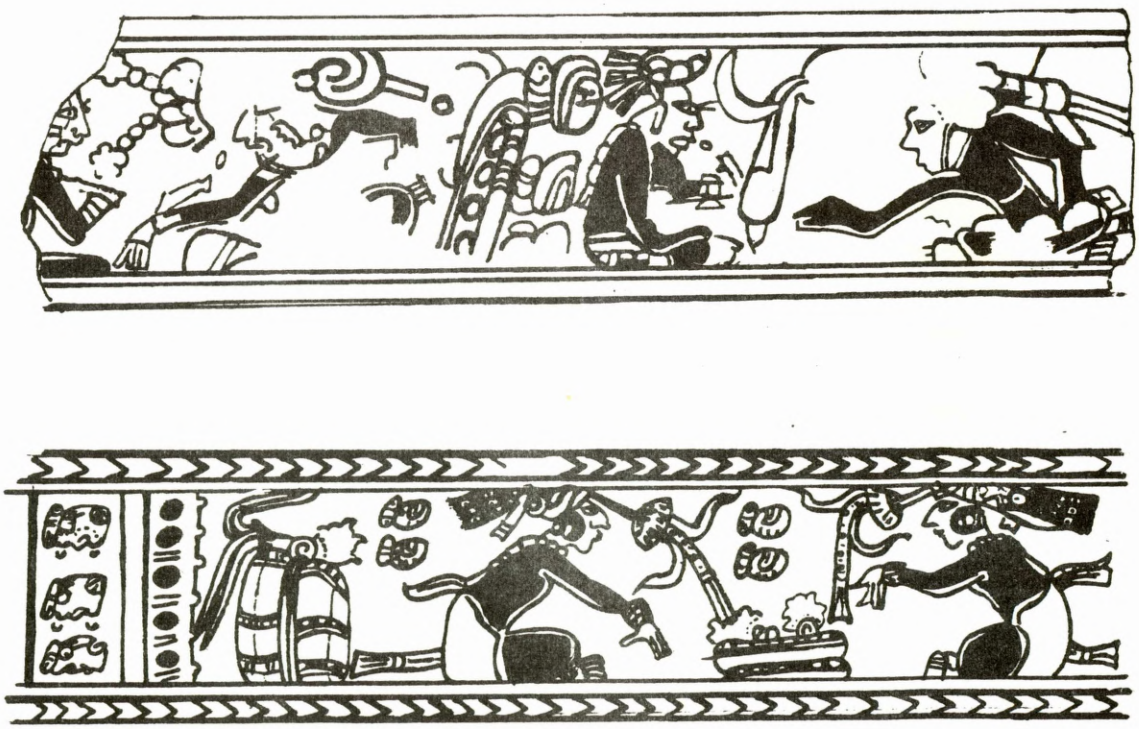

Fig. 6. Seated figure, Chama style polychrome vessels from Zacualpa (after Lothrop 1936).

forward to provide more space for painting the details of the figure, including dress and ornaments. On the other hand, the pose may have been adapted from pictorial scenes where seated figures facing each other lean forward to gesture or engage in some activity (see Fig. 6).

The elongated figure is perhaps the most interesting of the Copador design motifs. There are precedents for the depiction of an animate form--both human and bird--in an elongated pose, the majority of which occur on basal flange polychromes from the Early Classic period. The association between form and design is quite clearcut on these earlier vessels. The surface area available for painting on the wall of a basal flange bowl is limited and this may have led to the convention of narrowing and elongating the shape to adapt an animate form to this area. Coggins (1975:106) comments on the absence of elongated human and bird figures at Tikal in contrast to their prevalence at nearby Uaxactun. She reports that the Tzakol II basal flange bowls from Uaxactun have smaller upper wall areas than the Tikal examples, thus implying a form-based reason for the style. She also states that the shape and the design treatment were imported from the east (Holmul and San Jose). Incidentally, Smith (1955: Table 15) reports that elongated figures are the third most common motif for Tzakol II at Uaxactun, appearing on 61 out of 394 vessels. Figure 7 shows some of the Uaxactun elongated figures.

Fig. 7. Elongated figures, Tzakol II vessels, Uaxactun (after Smith 1955).

Another example on a basal flange polychrome is a conventionalized parrot on Nebaj vessels (Fig. 8), which is seen as Usumacinta-related (either imported or influenced from Peten) because nothing similar had been found at nearby highland sites (Smith and Kidder 1951). Also in the Guatemala highlands, an elongated figure is found on a Chama-style vessel from a vaulted tomb at Zacualpa (Fig. 9). Because it is assumed that the distinctive Chama style is generally Late Classic, this example could be coeval with Copador rather than antecedent to it. However, its existence is interesting in view of the fact that Ekholm has posited a Quiche-Alta Verapaz association for the Lagartero deposit where the seated figure, similar to that on Copador, was used (Ekholm 1977:155).

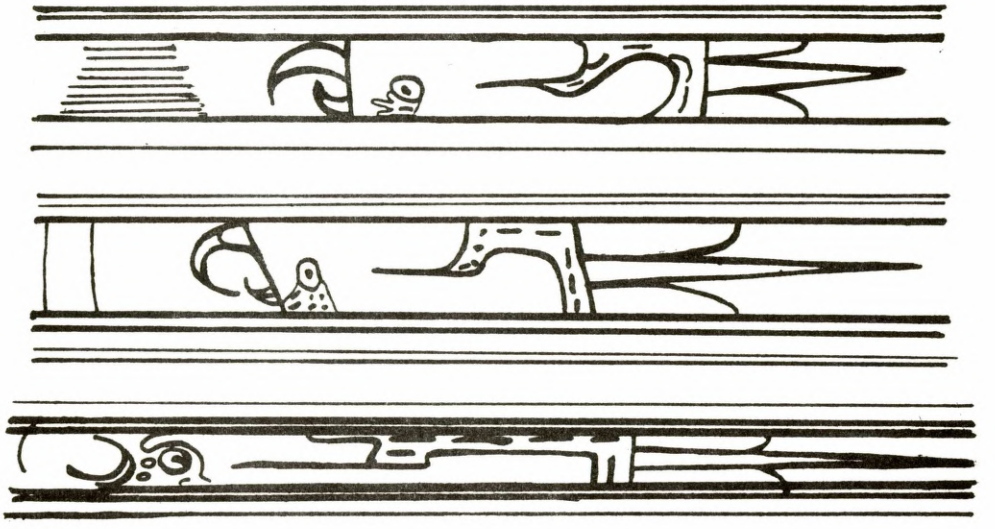

Fig. 8. Elongated parrot bands, basal flange polychrome bowls, Nebaj (after Smith and Kidder 1951).

Fig. 9. Elongated figure, Chama style polychrome, Zacualpa (after Lothrop 1936).

I believe the distinctive representation of the elongated figure was revived from examples of earlier basal flange vessels and incorporated into the design configuration of Copador. A monkey treated in this fashion is illustrated by Longyear (1952: Fig. 14b) on a Copan basal flange bowl.

The wall area available for decoration on an open bowl is theoretically not confined like that on a basal flange vessel. However, assuming that one of the canons for the Copador decoration was to "authenticate" the piece with an upper band of glyphs, the space available below the glyph band would be limited. A good decorative solution in that case was the elongated form, placed head to feet just as on the basal flange vessels.

Similarly with the recurved Copador bowl, if the upper register carries glyphs, the lower register (limited spatially) most often has the swimming figure. It should be noted that almost all the recurved bowls with the seated figure in the upper register use only solid paint below the break in wall direction. Do the seated figures and the glyphs perhaps "signal" the same meaning? It is possible because the recurved bowls with the seated figures very rarely have glyphs elsewhere on the vessel: never in the lower exterior register and very infrequently on the interior wall.

COPADOR DISTRIBUTION

The distribution of Copador pottery can be understood within the context of the site of Copan itself. Marcus (1976:125) states that Copan's early Late Classic stelae (9.9.0.0.0 - 9.11.0.0.0) are more closely related to Early Classic stelae of Peten (Tikal and Uaxactun) than to coeval monuments from the central lowlands. Early Classic basal flange shapes and slab-footed supports have been noted in Late Classic contexts in the Lake Yojoa area of Honduras by Baudez and Becquelin (1973). One explanation for these observations is that frontier areas in Mesoamerica tend to conserve or revive earlier styles. My reconstruction is that Copador is a product of the manipulation of a cluster of ceramic designs reflecting general elite Maya characteristics, including an archaizing method of showing the human figure, into a distinctive product--a commodity that with its attractive cream body color, glittering red paint, and boldly painted designs was a salable new product.

And what was Copan "selling?" Copan was "selling" an identification with lowland Maya culture or tradition, the religion and the social class that could achieve impressive buildings, carved stone monuments, and predictions of heavenly events. Part of the rationale for

this reconstruction comes from work that has shown that the context of Copador consumption is not elite. I have discussed elsewhere (Beaudry 1984, 1985b) that the availability of Copador Polychrome is to inhabitants of large and small communities not only in the production zone but in an importing area of western El Salvador, meaning that it was not restricted to high status people. It is proposed that Copador Polychrome was a means of broadly communicating social or religious identity, and perhaps it even served a function in household ritual.

It is not known how the ceramics moved but it is certain that a substantial quantity was exported from Copan. If the ceramics were part of an exchange system, the question remains, What was Copan receiving for its Copador exports? A few tentative suggestions can be offered: from El Salvador, cacao, balsam, indigo; from the middle Motagua, jade; from the Guatemalan-Honduran border (Ixtepeque), obsidian.

Finally, a discussion of Late Classic southeast Maya polychrome would not be complete without mentioning a distinct category of ceramics found in the southeast area but not produced there, that is, the broad group of Ulua polychromes. These materials have been known since early explorations in northwest and central Honduras. Different investigators have grouped them differently and given different names to this corpus of ceramics. The most thorough classifications are those of Baudez and Becquelin at Los Naranjos (1973) where they renamed a significant part of this polychrome group "Babilonia," and of Viel in his dissertation (1978), where he attempted to define classes and subclasses that had temporal and spatial significance. A detailed review of these ceramics is beyond the scope of this paper. I do want to point out, however, some differences in formal qualities (shapes, paint, layout, and motifs) between the Ulua and southeast Maya polychromes, as exemplified by Copador, and to look briefly at areal distribution.

Vessel shapes differ between the southeast Maya polychromes and the Ulua materials (Table 6). There is a much stronger emphasis on cylindrical forms and on footed vessels in the Ulua data set than in the southeast Maya polychromes. Also, many Ulua pieces are considerably bulkier with thicker walls than the southeast Maya pieces.

While the basic paint palette is the same in the two polychrome categories, the Ulua ceramics employ more varied tones of orange, red, and black. Either the pigmenting materials are mixed to produce shades of brown, maroon, and gray, or different raw material sources account for the variability. In either case, a viewer is struck by the wider range of tones in the Ulua materials vis-a-vis the "standardized" effect obtained from

Table 6. Percentages of Shapes of Vessels, Copador/Gualpopa Cream Paste Polychromes Versus Ulua Polychromes.

Shapes	Ulua (n=721)	Copador/ Gualpopa (n=230)
Bowls		
Open	--	37.0%
Recurved	34.4%	32.2
Other	--	5.7
Cylinders		
Bowl-cylinders	2.5	--
Cylinders (flat base)	9.3	17.4
Cylinders (annular base)	1.5	--
Cylinders (tripod)	19.1	--
Plates		
Tetrapod	1.5	--
Tripod	1.5	--
Jars	19.5	3.5
Tripod bowls	7.4	--
Dishes	--	0.9
Cups	--	3.5

Note: Approximately 30% of the Ulua polychromes have supports of some kind.

Copador. Ulua polychromes also use a white paint that is frequently placed over black; this is not found on Copador.

The manner in which the vessel surfaces were organized for decoration is more varied for the Ulua than for the southeast Maya types. For example, Viel separated the open bowl category into 16 design layout categories. The other high frequency shape categories had similarly varied layouts: 9 layouts on tripod cylinders, and 6 on jars (Viel 1978:68-85).

Viel classified motifs as principal and secondary themes, arriving at 40 principal iconographic themes (the most numerous category being animals) and over 60 secondary motifs with 45 featured on exterior surfaces alone. His approach was extremely detailed and represents an encyclopedic approach to design. I recorded 164 individual motifs for the southeast cream paste data set

but found that about 15 motif combinations accounted for most of the decoration within a shape for a type. Nevertheless, the presence of so much design variability on the Ulua ceramics is noteworthy.

Ulua polychromes seem to have been produced according to a different set of rules than Copador: more vessel forms, more decorative variation, a wider range of paint color, and probably more varied paste types, although systematic work on this last characteristic is just beginning (Beaudry 1985c). The observed variability probably relates to two considerations: a longer time span of production and distribution, and a wider production zone with more producing units. The production zones have not been precisely determined at this time. Through the trace elemental work done on southeastern periphery pottery, we know that the Copan valley was not producing this type of polychrome but was importing it. Preliminary neutron activation analysis has resulted in a statistical probability clustering of Ulua Polychrome from Copan, Santa Barbara, Yarumela, various Sula valley sites, and the Naco valley (Bishop and Beaudry n.d.). This group of 87 samples was distinct from a small set of domestic wares from the Naco valley and Santa Barbara and, of course, distinct from Copan valley-produced materials (ibid.).

From an analysis of the context of consumption of Ulua Polychrome in the Copan valley, these materials do appear to be related to household status in that area (Beaudry 1985b). The general observation from the Sula valley, however, is that they are not restricted to elite loci in this part of Honduras, assumed to be one of the production zones (T. Murray, personal communication, 1985).

Distribution of the Ulua Polychrome group is widespread. There is some overlap with Copador, in that Ulua ceramics are imported into Copan and the area intermediate to the two polychrome production zones, La Entrada (Nakamura 1985) and Santa Barbara (Schortman et al. 1986). However, it extends into eastern El Salvador as far as the Gulf of Fonseca (Fig. 10).

As with most topics in Mesoamerican archaeology, there are still many unanswered questions about Late Classic polychromes in the southeast Maya area and beyond its frontiers. We need to know more about the cultural and economic dynamics in the area where the two polychrome traditions overlap in distribution. We need more specifics about the production and distribution of different classes within the Ulua tradition. We need new methods for studying the mechanics of distribution of painted serving vessels. Although the list of needed

research is long, it is hoped that this paper will provide some preliminary insights into the production, distribution, and stylistic considerations of these Late Classic ceramics.

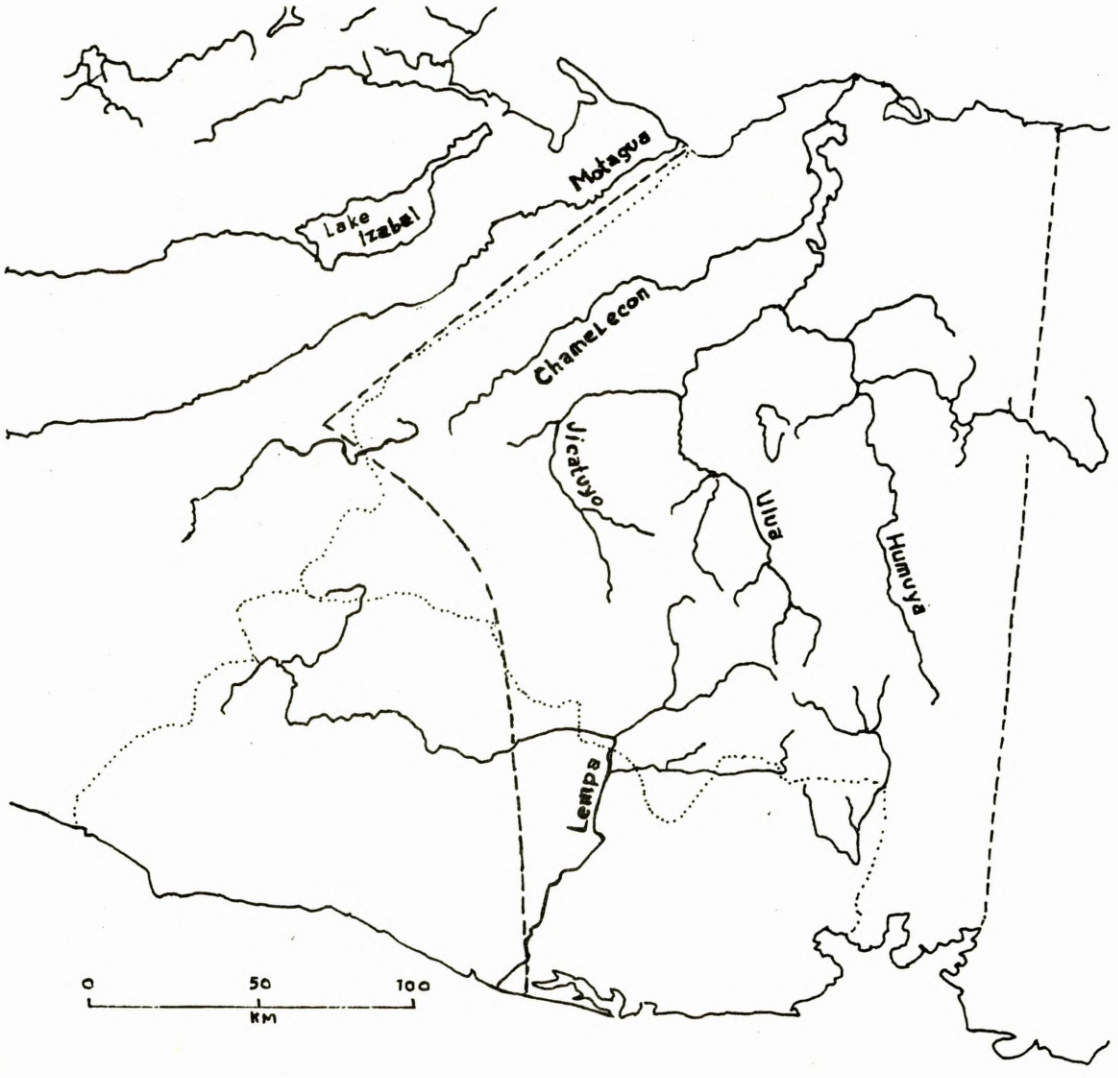

Fig. 10. Distribution area, Ulua polychrome group.

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22

Lowland Maya Pottery Production in the Late Classic Period

Prudence M. Rice

Pottery in the Maya area, as in other archaeological regions, has been an important source of information for dating sites and reconstructing their social, economic, and intellectual interrelationships. It is surprising, however, that despite decades of research into Late Classic Maya history, comparatively little is securely known about Maya sociopolitical organization, and even less is known about the relationship of that organization to economic activity.

Two important constructs have been employed in discussions of Classic period political and economic organization. One of these is the concept of "civic-ceremonial center." Most of the attention devoted to Maya centers of various sizes has focused on their political roles as administrative bases for the rulers, who proclaimed their genealogical, astronomical, military, and other sorts of achievements in inscriptions and other media embellishing palace and temple structures. The economic role of the centers has been largely neglected, although it has been hypothesized that they played a role in "economic networks that dealt heavily in both subsistence goods and utilitarian craft products" (Culbert 1977:512). Little evidence has been recovered at Classic centers to suggest that the role they played was strongly directive, however. Specifically, the centers have no structures clearly identifiable as storehouses or markets (although the open plazas could have functioned as such [Coe 1967:73; Folan et al. 1983:49-64; Freidel 1981:378]); nothing indicates that the writing system was used to record transactions, yields, tribute, etc.; and no workshops have been found concentrated in the centers to indicate administrative control or proximity to a market. While negative evidence provides only weak arguments, the cumulative absence of these features may be significant. The lowland Maya economy can be considered in some (rather

stereotyped) respects to be more chiefdom-like than state-like (Adams 1977a:159), and it does not seem to have been politically administered to any degree that is archaeologically visible to date.

Another important concept in efforts to reconstruct Classic period political and economic organization is that of the "region." Regions consist of a primary civic-ceremonial center, several subsidiary administrative tiers, and populations distributed at the level of the individual household (or more likely, extended households, as indicated by Late Classic domestic plazuela plans). They encompass territories of approximately 6000 to 15,000 sq. km in size. Inscriptions on stelae and other monuments at major regional centers, as well as texts on polychrome tomb pottery (e.g., Adams 1977b), suggest marital and military alliances between them, thus bespeaking some degree of supra-regional political integration, but it is not known to what extent such integration was paralleled in the economic realm of production.

Within the region, an important factor underlying economic activity and organization is environmental variability. Although early theories tended to emphasize the "homogeneity" and "redundancy" of the lowland environment, recent studies have emphasized the existence of resource diversity and productive differentials within the lowlands, occurring either clinally or in a micromosaic. Thus in a general way, the individual regions would have had a great deal of productive similarity to each other, and would have been able to maintain some degree of economic autonomy or self-sufficiency, at least in the production and consumption of certain kinds of goods (see Blanton et al. 1981:173-176). The exception to this generalization is the occurrence of highly localized or geographically restricted resources such as granite, coastal products, high quality chert, etc., the exploitation and exchange of which may have played significant roles in the emergence of societal complexity in Mesoamerica (Sanders and Price 1968:188-189).

In any case, environmental variations on a microscale, combined with the demographic and political characteristics of Maya society, may have combined to retard the development of strong vertical economic integration, fostering instead horizontal differentiation on the local and regional levels that operated without overweening political and administrative interference. On the other hand, the systems of agricultural intensification increasingly found all over the lowlands (e.g., Adams et al. 1981; Turner 1978) have been taken to indicate that one kind of production--i.e., agricultural--was politically regulated and administered (cf. Denevan

1982). Such administration would further suggest the likelihood of production of an agricultural surplus that would become part of a broader network of commodity exchange linking regions together.

APPROACHES TO THE STUDY OF CLASSIC MAYA POTTERY PRODUCTION

Occupational specialization has often been taken as a given in the Maya area on the basis of general models concerning the operation of large and complex societies, as well as by the quantities of elaborate material goods--believed to indicate the workmanship of highly competent artisans--that have been recovered in excavations. [1] Specialization is generally thought to have been an important part of the regional economic system of the Maya as a means of providing goods not only for local distribution or exchange, but also for long distance interactions. The basis for this circulation is generally held to be kinship and/or class standing: "certain goods and services are given the heads of kin groups, who in turn redistribute these items in return for still other goods and services . . ." (Adams 1977a:147), ". . . with goods controlled by the upper classes exchanged for services by lower classes" (Adams 1977a:155).

Although occupational specialization is widely agreed to have existed in the Maya lowlands (see Adams 1970; Becker 1973, 1983; Haviland 1974; Rice 1981; Shafer and Hester 1983, 1986), the degree of specialization is a matter of some debate. With respect to craft production (as opposed to specialized services) in particular, there is little direct archaeological evidence for the location or degree of intensiveness of such activity. Aside from the massive data on specialized lithic production at Colha, Belize (Shafer and Hester 1983, 1986), few other crafts have provided such unequivocal evidence of intensiveness in manufacture. In the case of pottery production, the absence of kilns or concentrations of potters´ tools have consigned most discussions of specialized production to the realm of vagueness and inference. For example, specialized manufacture of polychrome pottery among the lowland Maya is simply assumed on the basis of the high level of painting skill involved.

Ethnographic and ethnohistoric data drawn from the greater Maya area have been used to try to understand the nature of production (of pottery or other materials) in precolumbian times. One useful model is borrowed from present-day production in the Maya highlands of Guatemala and adjacent Chiapas, where specialization in the manufacture of a variety of goods exists on a village level. That is, within a particular region one village makes sandals, another manufactures baskets, another

produces blankets, another pottery, and so on. These specializations are often carried out part-time, over and above the time and labor devoted to agricultural pursuits. Furthermore, there is a tendency for villages manufacturing pottery to specialize in the production of particular forms (McBryde 1945; Reina and Hill 1978; Arnold 1978): one village will make bowls, another will make jars, and another will make comales, for example.

Ethnographic and ethnohistoric data raise the additional possibility of occupational specialization being based in lineages or other kin units. Miles (1957:768) discussed the existence in sixteenth century Pokom (highland Maya) towns of kin-based wards that also had associated craft activities. A similar kin-based craft specialization has also been hypothesized to explain the spatial and technological continuity of lithic manufacture at Colha, from Preclassic to Postclassic periods (Shafer and Hester 1983:539). It is possible that in the case of production of pottery, lithics, and a variety of other goods, the right to use the resources of production were held by kin groups.

Within the lowlands itself, there is little to nothing by way of ethnohistoric data on craft production to contradict or amplify these observations. One note on pottery production comes from Bishop Landa, who comments that in sixteenth century Yucatan "the trades of the Indians were as potters and carpenters. They earned a lot for making idols of clay and wood with much fasting and ritual practices" (in Pina Chan 1978:42). More insight into the nature of Yucatec Maya occupations comes from Lopez de Cogolludo (1974:14-15), a seventeenth century Spanish historian:

> There are many Indians in their villages, besides those who live in the City and in the Towns, who are great workers as smiths, locksmiths, bridlemakers, shoemakers, carpenters, wood-carvers, sculptors, saddlers, tradesmen who make many curious things out of shell, bricklayers, stonecutters, tailors, painters, and so on. What causes wonder is that there are many Indians who work at four or six trades where a Spaniard would have but one . . . .

This comment suggests that the Maya of Yucatan in the Colonial period, at least, practiced a number of "trades" or "occupational specializations" simultaneously, and that they were not "full-time" specialists in any of them. An additional observation comes from Fry (1981:149, citing Carillo y Ancona 1897), who noted that clays were reportedly traded long distances.

Lowland Maya Pottery Production

The ethnoarchaeological study of R.H. Thompson (1958:115) among Yucatan potters provides information on the recent past that may be generalizable even farther back into prehistory:

> Both men and women make pottery at Ticul, but only a special group of men make the hi´-tempered cooking pots. About a dozen of the 60-odd potters at Ticul are olleros. They do not make other kinds of pottery . . . Several Lerma potters say that their fathers specialized in the manufacture of a single shape much more than is done today. Some of these older potters were olleros, or pot makers, and others were cantareros and tinajeros, or makers of water-carrying and water-storage jars.
>
> The words for potter in the early dictionaries suggest that specialization in the manufacture of cooking pots or water jars may be of considerable antiquity in Yucatan.

Other clues to the organization of pottery production in the Maya area (or elsewhere) have been obtained by combining a number of observations on the pottery itself (P. Rice n.d.), including stylistic analyses, standardization of vessel dimensions, and technological or physicochemical studies. Many approaches employ the differential spatial occurrence of the artifacts as a basis for inferences of economic processes. More specific studies of production are not yet possible because actual manufacturing loci (kilns, etc.) have not been located in the lowlands (see P. Rice 1985). This is one of the most serious limitations in the study of lowland Maya pottery production, and stands in strong contrast to the situation with chert tool production, where workshop locations have been clearly identified, as a Colha, for example.

Lacking such information on production locations, the data base for most of what is known about pottery production in the Classic period in the southern Maya lowlands has proceeded from technological and physicochemical studies of pottery, sometimes by comparing the pottery with clays locally available in the region of interest. Technological and/or physicochemical studies have been carried out on utilitarian pottery of the Classic period from three sites in the central/southern Maya lowlands: Palenque, Tikal, and Lubaantun. Tikal and Palenque are two of the four Late Classic political capitals or "super-centers" identified by Marcus (1976), while Lubaantun is a small center lacking stelae (Hammond 1975). Although all three sites had smaller minor or "satellite" centers within their domains, the variations in size and status among the three may be responsible for some differences in scale between their economies.

Palenque

The earliest and most comprehensive of these technical studies concerns pottery production at Palenque, Chiapas, Mexico. Palenque is located at the topographical transition area where the Chiapas foothills meet the Gulf coastal plain in the western part of the Maya lowlands. Within the geographical boundaries of the 300 sq. km territory dominated by Palenque there is a considerable degree of ecological diversity in soils, geology, topography, elevation, and vegetation (savannas and high forest) (Rands and Bishop 1980:20-21).

The study of pottery manufacture and exchange in the area began with identification of classes of pottery on the basis of different kinds of inclusions and the distribution of these materials in the region. Petrography and neutron activation analysis of pottery from Palenque and sites within the region (Rands 1967; Bishop 1975, 1976, 1980; Rands and Bishop 1980), as well as local clays, resulted in identification of a number of paste compositional groups. Four of these were defined principally by mica, feldspar, and phytolith inclusions, while others include fine paste (Bishop, Harbottle, and Sayre 1982); Bishop and Rands 1982) and censer wares (Bishop, Rands, and Harbottle 1979). All these have distinct subregional distributions and presumed origins of manufacture. Rands (1967) initially tested two models of pottery distribution on the basis of these distinctions in light of what was known about Maya settlement and sociopolitical reconstructions. One of the two models was "inward-looking," and interpreted exchange in terms of a centrist model focusing on the site of Palenque; the other was "outward-looking," based on exchange between local centers within the region.

The results of these studies have provided a good deal of data concerning the nature of specialized production and exchange of pottery in the Palenque region and at the center itself. Palenque was judged to have been a center to which pottery from different zones within its region was brought and distributed. Pottery from the four major compositional groups are found in similar proportions at the center as in the region as a whole (Rands and Bishop 1980:27), although there is considerable variability in their region-to-region distribution (Rands and Bishop 1980: Figs. 9 and 10).

Specialization apparently existed on a community or zonal basis, a finding consistent with the contemporary Maya highlands. Production of non-ritual forms at the Palenque center itself in the Late Classic period was restricted principally to serving plates and utilitarian bowls (Rands and Bishop 1980:42).

Although all form classes are represented in each of the four paste groups at Palenque, there is some suggestion of specialization by form and function: serving vessels are best represented in the micaceous and feldspar-containing pottery believed to have been manufactured in the higher reaches (sierras) of the Palenque region, while utilitarian pottery is primarily the phytolith-bearing wares manufactured in the coastal plain to the north. Within the plains, there is evidence for localized specialization in particular forms such as figurines and serving vessels, and the plains area as a whole seems--perhaps because of its relative lack of advantage for agriculture--to have been a locus of important ceramic manufacture in the Late Classic (Rands and Bishop 1980:34, 42).

Jars are difficult to relate to central or "macro" Palenque paste types, and the implication is that jars (or perhaps clays for making jars) were imported from outside the site proper throughout the sequence (Rands and Bishop 1980:37).

The Palenque center imported utilitarian pottery in large quantities, and exported little: the ceramic exports were primarily prestige items such as censers or cache vessels, and these moved only a short distance beyond the site (Rands and Bishop 1980:42).

In sum, the site of Palenque was primarily a consumer of pottery rather than an exporter, and the distribution of pottery in the region is consistent with either central marketing or a redistribution system. Rands and Bishop (1980:43) noted that non-market exchange processes such as taxation, "tribute," or kin-based relationships could be responsible for similar patterns of ceramic distribution. They declined, however, to throw their support behind either the "inward" or "outward" model of ceramic exchange. The focus on manufacture of elite goods in the center has suggested to the investigators ". . . a kind of 'symbiosis' that was controlled and manipulated by Palenque [center], based on an apparent monopoly of skilled artisans, ceremonial prerogatives, and organizational resources for production and distribution" (Rands and Bishop 1980:44). Hammond (1982:226), in reviewing the Palenque material, calls attention to the fact that the distribution of Palenque's emblem glyph is primarily at sites in the plains, seeing this, together with the ceramic data, as evidence that the area "was under Palenque's economic control."

Tikal

Ceramic production and trade have also been investigated at Tikal, in Peten, Guatemala. As at Palenque, Tikal pottery production in the Late Classic has

been investigated through the distribution of technologically-defined paste categories. A much smaller geographical area of sample recovery is involved in the Tikal study, however. While at Palenque the ceramic distributions reflected a region, the Tikal pottery samples are from excavations in structures mapped in a 24 km-long north-south settlement survey transect with Tikal as its center (Fry 1980: Fig. 1). The Tikal pottery thus represents distances of a maximum of only 12 km from that center and a "sustaining area" of 123 square km (Haviland 1970:190).

The Tikal study hypothesized a locus of pottery production on the basis of the distribution of muscovite (cf. Ford and Glicken, this volume) in the pottery: "Muscovite is commonly found in less intensively weathered [soil] deposits. A likely source [of clays containing muscovite] would be in the higher areas nearer the El Palmar ridge northwest of Tikal" (Fry 1980:6). This location is on the north end of the transect, approximately 8 km north of central Tikal. The distribution of muscovite-containing paste in four formal/functional classes of Lae Classic pottery along the Tikal transect was investigated: serving vessels, monochrome slipped bowls and basins, slipped narrow mouthed jars, and unslipped coarsware wide mouthed jars (the latter three being termed "utilitarian" pottery). Interpretation of the patterns of production (and distribution) was largely in terms of the similarity of ceramic assemblages scaled against distance (Fry and Cox 1974; Fry 1979), and by the shapes of the fall-off curves (Fry 1980).

As at Palenque, there is evidence at Tikal of specialization in shape classes by paste. The hypothesized producing center north of the center, using micaceous pastes, was suggested to have made all the vessel forms mentioned above except wide mouthed jars (see below). The distribution of these vessels is, as might be expected, largely confined to the northern part of the transect. In fact, only small amounts of this pottery reached northern and central Tikal proper at all. Of twelve data points for this pottery (three vessel categories, each in two periods in the Late Classic in two locations at the Tikal center), only three points represent percentages of micaceous paste greater than 20%.

The fall-off curves are irregular in the northern part of the transect, in general bottoming out at or near Tikal, and then flattening at the two sampled locations south of the site center. Only in monochrome slipped wares (bowls, and particularly narrow mouthed jars) are there relatively smooth and steep distribution curves, suggesting "that there were a number of producing centers in the Tikal zone making this shape class, with most of them [the producing loci] regarded as equivalent" (Fry

1980:13). Further, there is believed to be a "relatively lower demand for this class of pottery, combined with a more rigidly constrained demand structure" involved in the production of both jars and serving vessels (Fry 1980:13).

Unlike the finer wares described above, large wide mouthed utilitarian jars were made of a coarse unslipped paste rather than the finer micaceous clay. These vessels were technologically very heterogeneous, and the distribution of different pastes gave clear evidence of extremely localized production in the survey area.

Tikal, like Palenque, "appears to have been a consumer rather than a redistributor in the pottery exchange system" (Fry 1980:16, italics in original). Tikal and its peripheral area were supplied by a number of locations of production of each class of pottery. Fry suggests that five production loci were supplying slipped bowls and three produced narrow necked jars; a similar number (3 to 5) produced polychrome vessels, although one-quarter to one-third may have been produced outside of the Tikal region. Similar numbers of production nodes were probably engaged in making unslipped utilitarian jars (Fry 1980:16). At Tikal, however, the distribution of only one paste was analyzed, so the relative proportions of several ware categories in the areas of interest are not known. As at Palenque (Rands and Bishop 1980: Figs. 9 and 10), there is a good deal of variability in the percentages of the vessels with distance from the site center (Fry 1980: Figs. 2,3, and 6).

The ceramic system at Tikal in the Late Classic was highly complex. Fry (1980:16) attributes the complexity to a market system, but one that was "less centralized" than expected, with much of the exchange being "handled through local distribution systems." He concludes that "even the largest Classic Maya sites, such as Tikal, were apparently not the major nodes of redistribution of craft items as many had anticipated" (Fry 1980:16).

Lubaantun

A third study of pottery manufacture and distribution in the Late Classic period is focused on Lubaantun, a small site in southern Belize. Unlike the two sites previously discussed, it was not one of the regional capitals of the lowland Maya, but it was apparently of sufficient status to have a number of smaller satellite or minor centers within its domain of 1600 sq. km. Like Palenque, the site region included a good deal of ecological variability, embracing ten environmental zones between mountains and the coast (Hammond 1982:177, Fig. 5.16).

Trace elemental analyses were performed on pottery

from Lubaantun and compared to locally occurring clays (Hammond et al. 1976). The conclusions drawn from this analysis are informative as to the nature of pottery production and distribution on a much different scale from that of the previous two sites.

Most of the cooking, storage, and serving vessels at Lubaantun were made of local clays found within 6 km of the site. Polychrome pottery was locally made, perhaps "at a workshop within the ceremonial precinct . . . (although the very small quantity of such fine pottery raises the possibility that the artist was a travelling specialist, performing specific commissions on locally made vases)" (Hammond 1982:227). Moldmade figurines, which are seen as examples of Maya folk art, were manufactured at Lubaantun and exported to a number of sites, including Pusilha (Hammond 1982:138).

More than 100 tripod plates were imported to Lubaantun from another site, Barton Ramie, over 100 km to the north and separated from Lubaantun by a mountain range. The reason for the presence of these vessels is unknown: "they did not supply any economic need at Lubaantun, but are too common to be high-status gifts" (Hammond 1982:228). Very small quantities of pottery from other distant sites were found, including 25 sherds of Fine Orange, presumably from Seibal 150 km to the west in Peten, as well as an unreported number of decorated sherds said to come from Pusilha, a stela-bearing site 32 km to the southwest of Lubaantun (Hammond 1982:228).

Hammond (1982:226) interprets the ceramic distributional data from Lubaantun as indicating an "inward-looking" model similar to that postulated initially for Palenque.

DISCUSSION

What can be said about Late Classic utilitarian pottery production in the lowland Maya area on the basis of these three studies? First, there is little to nothing in the data, either quantitatively or qualitatively, to suggest that the producers of this pottery would have been full-time specialists. In the case of polychrome vessels, the painters and the potters may have been two separate individuals (especially in producing the "codex-style" vases, or other pots bearing the esoteric Maya hieroglyphic writing system). The possibility of travelling artisans, working on commission to paint locally potted vessels in relatively remote areas, has not be extensively explored, however.

Second, production seems to be in the hands of multiple subregional and local specialists whose products

(at least within "non-elite" wares) are form classes. The distribution of these production loci throughout a given territory is dispersed, rather than concentrated in barrios, paralleling the dispersed lowland settlement pattern in general. This location away from the centers, and the lack of capital investment, suggest that production arrangements were similar to the present highland Maya pattern of village specialization, and that potters combined these craft activities with involvement in agricultural production. At both Palenque and Tikal, the investigations hint at the role of environmental diversity and lack of good agricultural land as an impetus to ceramic craft specialization (Fry 1980:4; Rands and Bishop 1980:42).

Only a relatively small proportion of pottery recovered from a given region was manufactured outside that region (although in the latter part of the Late Classic period Palenque seems to have imported large quantities of fine paste wares from the northeast, in Tabasco). The areal patterns of occurrence of pottery from different locations of manufacture within a region can be explained either by market models or by redistribution. However, the degree of apparent decentralization of administration of production and distribution, together with the absence of archaeological evidence for markets at these centers, suggest that redistribution seems to be the best hypothesis (although several studies [Hodder 1974; Hodder and Orton 1976; Renfrew 1977] suggest that reciprocity, redistribution, and market exchange cannot be distinguished by fall-off curves alone).

Graphs of frequency of vessel classes against distance from the civic-ceremonial centers rarely suggest true "supply-zone" behavior. This has been inferred by Fry (1980) to indicate lack of competing centers of production, but it could also be a reflection of the lack of centralized control of production. Similarly, the multimodality of these graphs--and particularly the differences in occurrence of micaceous wares in comparing north Tikal with central Tikal--would tend to suggest that other "non-economic" and unmeasured factors are operating to control the circulation of these wares. One such factor is of course kinship; Fry's study controlled for status differences. It is interesting that dichotomous patterns of distribution of different kinds of goods have been noted in Colha cherts; they are described as "secular" versus "non-secular" goods, and each circulates in different patterns (Shafer 1982).

With regard to pottery, the Classic civic-ceremonial centers seem to have been consumers rather than producers of goods. They themselves produced and distributed only small quantities of pottery and that--if Palenque and

Lubaantun are accurate indicators--was principally "non-utilitarian" or "elite´ (censers, cache vessels, polychromes, figurines). These items may have been produced under direct elite administration, commission, or patronage. In light of the hypothesis (Culbert 1977:512) concerning the participation of Classic centers in economic activities involving subsistence and/or utilitarian goods, such activities will need to be investigated in the future by means of new techniques and models.

It is also worth noting that although the extra-center locations of utilitarian and serving ware pottery production activities seem to have remained characteristic of the Late Classic period, changes are evident in production organization (P. Rice 1986). Specifically, variability of technological and stylistic attributes of pottery at both Tikal and Palenque increased from the early to late Late Classic periods (Fry 1979:505-506, 509, esp. Figs. 3 and 4; Rands and Bishop 1980: Figs. 12-16). In addition, polychrome styles become increasingly localized during these same periods.

Similar changes in pottery variability elsewhere in Mesoamerica (i.e., Oaxaca) have been linked with heightened competition between producers, and decreased administrative control of ceramic production (Feinman et al. 1985). In the Maya area, however, it is more likely that the changes can be explained by increasing numbers of people moving into utilitarian (including serving ware) ceramic manufacture in the Late Classic period. The greater numbers of producers in Tepeu 2 times would contribute to increased variability of the products (see also P. Rice 1981:226), and the marked regionalization of pottery styles and compositions in the late Late Classic. The evidence reviewed above suggests that pottery production never was a tightly controlled full-time specialization in the southern Maya lowlands; thus there was probably a certain fluidity of membership in producing groups over time.

Given the probable social and economic (especially agricultural) insecurities of the Late Classic period in the southern lowlands, it may be suggested that by adopting pottery manufacture as a livelihood, people were exercising one option for coping with such insecurity: productive diversification. During these times, manufacture of low value/high consumption goods (such as utilitarian pottery vessels) would be an attractive supplementary economic activity: the need for these goods would be relatively continuous (in contrast to fluctuating elite demand for polychromes). Furthermore, pottery making might have been especially advantageous in heavily settled areas suffering some degradation in agricultural productivity as a result of a history of over-farming.

With respect to the question of occupational specialization in the Maya area, it is worthwhile to examine the whole concept of specialization more carefully. One effort at such an exercise is that of Muller (1984), who has drawn a distinction between "site" and "producer" specialization. Site specialization refers to a narrow range of productive activities carried out at a particular location, and is frequently a consequence of the very restricted spatial distribution of certain kinds of resources. The specialization of chert tool manufacture at Colha is an example of site specialization. Producer specialization, on the other hand, is a term used by Muller to refer to the concentration of time and effort on a particular productive activity in order to earn a living, and is frequently described by the degree of labor intensification as being either part-time or full-time. "Producer specialization" in this usage is really a misnomer, for it would be good to observe a distinction between specialization in a resource or product as opposed to intensification of labor or capital (see P. Rice n.d.). Producer specialization, as Muller refers to it, is really an example of productive intensification, a process associated with socioeconomic differentiation and complexity.

Thus there are at least three aspects of the issue of specialization that might be considered with respect to Maya pottery production: site specialization (identifying locations of concentrated production, perhaps in association with unusual clay resources), product specialization (manufacture of a limited range of products in a particular production locus, regardless of whether or not that locus can be described as "specialized"), and intensification (of labor and capital in the productive enterprise). Site specialization, product specialization, and producer specialization (intensification) may or may not co-occur. Furthermore, because site specialization is so closely correlated with very localized resources, the causal mechanisms (such as poor agricultural soils) hypothesized to explain in part the existence of one kind of specialization (e.g., locations of pottery production) cannot necessarily be assumed to explain equally well the existence of another (site specialization of chert tools; see Shafer and Hester 1986:163).

In the Maya lowlands, the evidence to date suggests that non-elite and non-"attached" (sensu Earl 1981:230) craft production activities took place outside the large centers. By analogy with the modern highlands, production of pottery was probably a community-based activity focused on the creation of particular forms. Furthermore, analogies with both highlands and sixteenth century Yucatan, as well as the absence of capital investment in the enterprise (kilns, workshops, etc.), suggest that pottery making was a part-time rather than full-time activity.

In other words, Maya utilitarian and serving ware pottery production seems to have been a largely rural and non-intensified activity, exhibiting "specialization" only in the sense of particular products (especially forms) being produced at particular locations. It is not yet known to what extent this specialization in forms may represent site specialization, that is, being a consequence of properties of locally available clay or tempering resources, such as strength, thermal characteristics, etc. These observations are admittedly based on a considerable degree of negative evidence, but they summarize the existing state of knowledge of lowland Maya pottery production in the Late Classic period, and hint at the areas where further work needs to be done.

Notes

[1.] Occupational specialties among the Classic Maya are likely to have included the production of goods as well as the execution of a variety of services. Among these specialties we might include the following (see Adams 1970; Becker 1973;403): production of pottery, stone (flint and obsidian) tool-making, leather-working, weaving cloth, working wood, shell, and bone, basketry, costuming, mask-making, feather-working, jade-working, curers, dentists, bearers, water-carriers, sculptors, masons, scribes, architectural planners, astronomers, traders, musicians, servants, stucco-workers, entertainers, bee-keepers, butchers, accountants, hunters and/or fishermen, painters.

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23

Maya Pottery After 20 Years: Archaeological Implications

Dean E. Arnold

Part of the task of every archaeologist is to understand the relationship of material culture to society. For the student of ceramics, the traditional way to accomplish this task is through formulating chronologies by ordering ceramic similarities and differences through space and time. Continuities and changes in the chronologies allegedly represent the continuities and changes of populations or the influences of one society over another through diffusion, migration, or conquest.

Another research strategy for building a theory relating ceramics to society involves ethnoarchaeology. One ethnoarchaeological approach consists of a comparative, cross-cultural methodology to identify universal cultural processes based on the chemical and physical characteristics of the ceramics themselves. These processes include feedback mechanisms like distance to resources, the effect of weather and climate, degree of sedentariness, demand, and man/land relationships, which either stimulate or prevent the original development of pottery production and its evolution into a full-time craft. Such processes operate in the present and in the past independently of culture-historical forces. This approach was elaborated in Ceramic Theory and Cultural Process (Arnold 1985) and is close to what Hodder (1982) called a "relational analogy."

Other processes like those responsible for changes in the organization of ancient ceramic production may also have correlates in the present. While the specific conditions that led to ceramic changes in the past are different from those of the present, the underlying cultural processes (like those responsible for the movement from a household-based craft to a workshop-based craft) may be similar. It is ironic, for example, that

anthropologists decry the replacement of traditional pottery by tourist pottery while the causal processes of this phenomenon may be parallel to, rather than divergent from, the evolution of ancient ceramic production. Tourist pottery may be repulsive to the archaeologist, but the forces that led to its development may have processual analogues in the development of fancy ritual ware in the past.

One ethnographic approach that can help uncover cultural processes underlying ceramic change through time is known in cultural anthropology as the "community restudy" or simply the "restudy method" in which the ethnographer returns to a community he or she has studied in the past to record the changes that occurred since the last visit. This technique was pioneered by Robert Redfield (1950; Redfield and Villa Rojas 1934), Oscar Lewis (1943, 1963), and Margaret Mead and is used by many cultural anthropologists. It has been underexploited in ethnoarchaeology, but has been used by a number of ethnographers (both archaeologists and cultural anthropologists) to study contemporary communities of potters. Reina and Hill (1978) described some of the changes that have occurred in the community of Chinautla, Guatemala, since Reina originally studied it in the 1950s. Lackey (1982) returned to the Mexican pottery making village of Acatlan that George Foster studied in 1952 (Foster 1960). Similarly, Charlton and Katz (1979) described pottery in Tonala--a community that May Diaz (1966) studied in the early 1960s. Papousek (1981) revisited pottery making communities in the municipio of Temascalcingo in the state of Mexico that he had studied in 1967 (1974).

This paper is a brief summary of some preliminary results of a restudy of potters in Ticul, Yucatan. My original research in Ticul dates to 1965 when I spent six months studying the ethnotechnology of pottery production (Arnold 1967, 1971). I returned to Ticul six times in the next five years with my last visit in 1970 (Arnold and Bohor 1975, 1976, 1977). In 1984 I returned to Ticul for six months to see what had happened to pottery production there in the twenty years since my first visit.

Pottery production in Ticul has been studied in one way or another over a period of 40 years. In addition to my own research there, Rendon (1947), Barrera Vasquez (1937), Brainerd (1954), Thompson (1958), and Hurd (1976) have all described aspects of Ticul ceramic production in varying amounts of detail. Ticul thus provides a unique opportunity for studying the processes that affect ceramic change over a period of 40 years.

One of the primary goals of my research in 1984 was to describe thoroughly the community of potters in Ticul.

Because I had mapped the house locations of potters in 1966 and assembled genealogical data of many of the potters in 1968 and 1970, I wanted to see if the population of potters had changed and what changes in ceramic technology, if any, could be matched against changes in the pottery making population.

This summary of the preliminary results of my research is organized into several parts. First I briefly describe the ceramic changes or lack thereof in the last 20 years. Then I assess the relationship of these changes to the population of potters in Ticul. Documenting change is important in itself in relating the ceramics to the intangible social patterns in the society, but it is only the first step in identifying the underlying processes responsible for that change. These processes provide more potential for generalization than a description of the changes themselves. Finally, I comment on how these data relate to archaeology.

CERAMIC CHANGES IN TICUL

My discussion of the changes of Ticul ceramics is organized according to the production sequence. First I briefly describe the similarities and differences in raw materials, forming techniques, vessel shapes, and decoration between 1965 and 1984.

Ticul potters use the same sources for clay and tempering materials in 1984 that they used from 1965 to 1970. Potters still obtain their clay from the mine in Hacienda Yo´ K´at seven km away and obtain their temper from the temper mines (Yo´ Sah Kab) located four km away on the road to Chapab (Arnold 1971). Both raw materials appear to be identical to those used twenty years ago.

The main changes in raw materials since 1965 have been in their procurement. While Thompson (1958:66) reported that in the 1950s potters themselves went to the sources to obtain clay and temper, raw material specialists began to evolve in the late 1960s. Most specialists were also potters or were tied to the pottery making community through marriage or residence. All raw material specialists were part-time in 1965 except the husband of one potter who mined temper full-time. In 1984, however, there were approximately six full-time specialists who did nothing but mine and prepare temper and clay.

When I discovered the existence of full-time raw material specialists in Ticul I wanted to learn about the factors that led to the emergence of these specialists. Why do potters rely on specialists to obtain their raw materials rather than go to the sources themselves to mine

their raw materials? One potter responded that specialists had developed the motor skills necessary to mine clay rapidly and efficiently. If the potter were to mine his own clay, it would take him a longer period of time than the specialists to obtain an equal amount of clay.

There are, however, several other reasons for the development of raw material specialists in Ticul. First, the number of full-time potters since 1965 have increased from about 30 to 175. The volume of clay and temper required by potters and the distance of these sources from Ticul necessitate a means of transport to the potters' houses. It is simply not possible to move the volume of raw materials needed in Ticul without some capital-intensive form of transportation. Specialists must thus contract with an owner of a horse-drawn cart or truck to do so. Second, the ownership of the raw material sources is also a factor. While the temper mines are part of the ejido of Ticul and can be utilized by anyone, the clay mine is privately owned by a local entrepreneur. Furthermore, the owner of the clay mine charges a fee for each bag of clay mined and requires that miners use his truck (for a fee for each bag of clay) to transport it to Ticul. The truck will only make a delivery if there is a full load--usually about 60-80 bags. Having fewer persons dealing with the owner on a more regular basis is more efficient than an individual potter having to obtain permission to mine clay each time he needs it, to pay the required fee, and to arrange transport of the clay to Ticul. It is thus more time-consuming and inconvenient for individual potters to go to the clay source to mine their clay. It is more efficient for them to spend their time making pots.

Even though there has been some change in the device used to fabricate pottery, the forming techniques used in 1984 were essentially the same as in the late 1960s with the continued use of a turntable and two-piece molds. Traditionally, Ticul potters made pottery with the kabal (Fig. 1), a turntable device propelled by the hands or by a combination of the hands and feet (see Thompson 1958:76-81, Fig. 23g-i, Fig. 25a-c). In the late 1940s, a government project tried to introduce two additional forming technologies into Ticul: two-piece molds and a potter's wheel which used centrifugal force to form pottery. Of these, only the molds were accepted. Thompson mentioned their use in 1950-1 (Thompson 1958:20), and alluded to their presence in an illustration (Thompson 1958:138-39). Molds were present in 1965-70 and represented a very important vessel forming technique in 1984. Probably the main reason for the acceptance of molds is that they require very little skill to produce pottery. They also require minimum capital investment. This advantage is very important because most potters in Ticul are poor and have little cash to spend to intensify

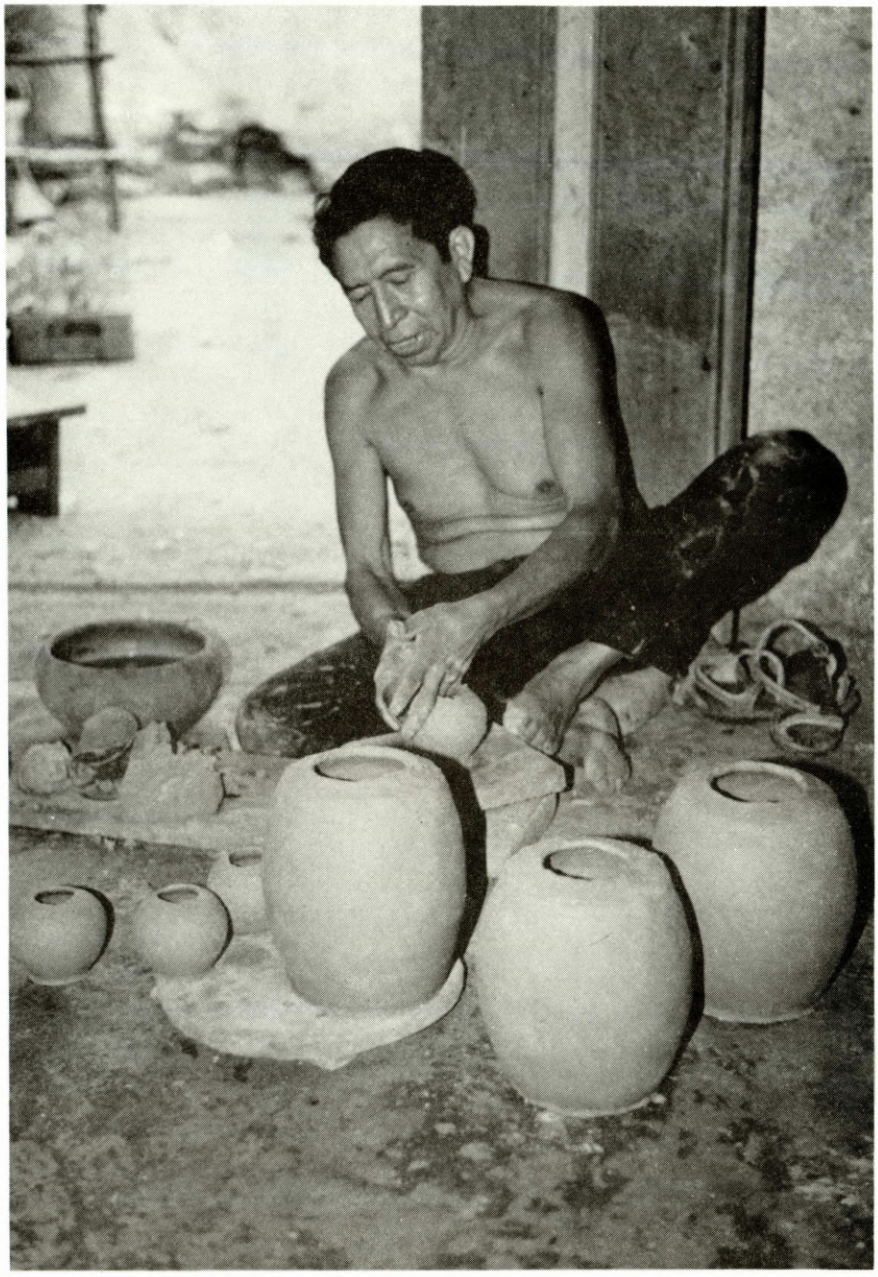

Fig. 1. A Ticul potter using the kabal to make a small pot. The kabal is the traditional device used for making pottery in Ticul and may sometimes require the use of the feet rather than just the hands (see Thompson 1958:76-81, Fig. 22-24). Apart from two-piece molds, this device was used to make pottery in 1950-1 (Thompson 1958:76-81, Fig. 22-24) and 1965-70, but had largely been replaced by the ball bearing turntable (Fig. 2 and Fig. 3) in 1984.

their craft. Molds also have a great advantage in adapting easily to changes in vessel shape. Although there is a limitation to the size of vessels that can be made using molds with Ticul clay, most vessels and figurines 25 cm high or less can be easily copied by making a mold and then producing the products in quantity with little variation in quality.

The most interesting change that occurred in forming technology was the acceptance of the ball-bearing turntable (which potters call either torneta or tornete) by approximately 75% of the potters of Ticul (Figs. 2 and 3). While this device looks like the potter's wheel, the vessels are not produced using centrifugal force. Rather, the ball-bearing device is used like the kabal. Potters say that the main advantage of the ball-bearing turntable is that it is easier than the kabal to turn with the force of the hands when they are forming the vessels and thus it does not require the use of the feet (Fig. 1).

Vessel shapes in Ticul have changed dramatically in the last twenty years. In 1965, potters produced two classes of vessels. First and foremost, they made traditional utilitarian vessels for local use and consumption. The predominant shapes in this class of vessels were the water carrying jar (cantaro; Thompson 1958:123-129), the water storage jar (tinaja; Thompson 1958:120-123), and a vessel for soaking maize and storing water (apaste; Thompson 1958:116, 117-19). A second class of vessels were hollow figurines used as banks for saving coins. Both classes of vessels were sold by the potters themselves in the markets and fiestas throughout the northern Yucatan peninsula.

In 1984, however, the kinds of vessels produced changed radically from those made twenty years earlier. First, the production of pots for carrying and storing water had almost completely stopped with the advent of a piped water supply in almost every community in the state of Yucatan. Two potters still made these vessels for a small clientele in the more remote areas of the peninsula (such as the Puuc region and isolated ranchos near Valladolid). Second, potters produced both new and traditional shapes as decorative flower pots for the homes, gardens, and patios in the northern Yucatan peninsula. Tourist hotels in Merida and Cancun often purchased these pots to place in their lobbies and hallways. A third class of vessels was produced exclusively for tourists and sold in the shops in Merida and Cancun. Tourist pottery almost always is small enough to carry in a suitcase or carry-on luggage and can be grouped into three types. One type consists of copies of archaeological figurines from a variety of Mexican cultures (e.g. Teotihuacan, Olmec, Maya) from the Formative through the Postclassic periods. A second type

Fig. 2. The turntable device (which potters call the tornete or torneta) used for making pottery in Ticul in 1984. This device is made of metal with a ball bearing on top of the metal post. A pipe of slightly larger diameter welded to a circular metal platform is placed over the ball bearing on the metal post. A drop or two of oil keeps the device turning smoothly and easily. This innovation is used in the same way as the traditional kabal, but it is easier to turn because of the ball bearing. Furthermore, potters do not have to use their feet to turn it when their hands are occupied.

Fig. 3. A Ticul potter using a turntable to make a tourist curio. All turntables of the new form are at least partially metal and have a ball bearing movement, but the precise form of the turntable varies greatly from household to household. In this case, the turntable is not detachable (compare with Fig. 2) and is anchored in a gallon can filled with cement.

consists of archaeological, traditional, and modern shapes painted with elaborate polychrome designs reminiscent of Classic Maya vessels. A third type consists of miscellaneous shapes and figurines.

Great changes have also occurred in decoration. Between 1965 and 1970, the predominant type of decoration was the traditional buff or red slip applied before firing. On rare occasions, this slip was zoned or was used with a negative design. Some plastic decoration was used on rims and hand-modeled applique strips and relief figures occasionally occurred on the body of vessels. Potters also used multi-colored oil-based paints during this time to decorate coin banks. By 1984, decoration had changed radically. Traditional pre-firing red and buff slips and limited plastic decoration was used only on flower pots. A black ware also appeared. The remaining kinds of decorative techniques used in 1984 were post-firing and consisted of multi-color paints (oil-base and water-base) utilized in several ways: scenes inspired by Classic Maya polychrome vessels, floral designs on flower pots, coin banks, and figurines.

CERAMIC CHANGE AND THE COMMUNITY OF POTTERS

How are these changes related to the community of potters in Ticul? What aspects of Ticul society are reflected in the changes in ceramics in the last 20 years? The composition of the population of potters in Ticul has changed very little since 1965. The potters who made pottery in the late 1960s still made pottery in 1984. Roughly 95% of the active potters in 1984 belong (by descent or marriage) to the same families who were potters in 1965. Most potters came from the same four extended families of potters and 81% have learned the craft from their mother, father, wife or husband. Residence patterns are also the same; potters identified in 1966 and still living in the community in 1984 generally lived in the same households and were concentrated in the same nine square block area as they were in 1965-70.

In 1984, however, a new kind of potter, the specialist potter, was emerging in Ticul. This type of potter did not come from the traditional pottery making families and did not learn the craft from relatives. In most cases, specialist potters begin learning the craft as teenage apprentices in commercial workshops outside the household. In a few cases, however, these potters are housewives who buy clay and temper, make a few simple pots at home, and sell them unfired to a workshop or another potter. In all cases, specialist potters know very little of the totality of the traditional pottery making process. They either produce pottery for which little

knowledge is necessary (like mold-made objects) or they specialize in a restricted task like painting or fabrication of a particular shape with little knowledge of the total production process.

The main change in the population of potters in the last twenty years is an increase in the number of potters. According to my survey in 1984, there are 175 active potters in Ticul compared with a rather liberal estimate of 30 in 1966.

Great technological changes have occurred in Ticul in the last 20 years (compare Fig. 4 with Fig. 5). Almost all potters own a television and many have piped water and non-traditional household furniture (Fig. 6). A few live in non-traditional houses and two own trucks.

Besides the great technological changes occurring in Ticul and the increase in the number of potters, to what social phenomena do the ceramic changes correspond? First and foremost, they correspond to a change in the organization of pottery making in the community from production within the household to production in workshops outside the household. Workshops outside the household began with the availability of capital. Although only three potters actually owned a workshop in 1984, most of the workshops were owned by non-potters who had access to capital--either their own, government capital, or bank credit. Workshops needed capital for three reasons: 1) to pay workers on a regular basis, 2) to construct, buy, or rent facilities to fabricate, dry, and store unfired pottery (in order to mitigate the regulatory effect of rainy weather [See Arnold, 1985]), and 3) to have access to a motor vehicle to transport quantities of pottery to distant markets.

Second, this mode of production has brought with it increased specialization. As recently as the late 1960s, potters performed all of the tasks of pottery production and distribution except obtaining raw materials. In 1984, potters had decreased the number of their tasks, with some potters only fabricating the pottery, but relegating the roles of procuring raw materials, firing, decorating, and marketing to specialists. The greatest segmentation of production tasks occurs in workshops outside the household, but even many household potters relegate all tasks of the craft to specialists except fabrication and firing. The development of specialists is thus most clearly reflected in the ceramics themselves in the proliferation of painted pottery. Most painted pottery is produced by workshop specialists.

Third, the changes in shape and decoration are the responses to a changing market where traditional uses have disappeared and new uses have emerged. In contrast to

Fig. 4. View of a Ticul street in 1965 showing a potter´s house in the center. In 1965, pottery was transported to the train or bus station using a horse drawn cart and then taken by the potters themselves to sell in various parts of the peninsula (Reprinted from Arnold, 1985).

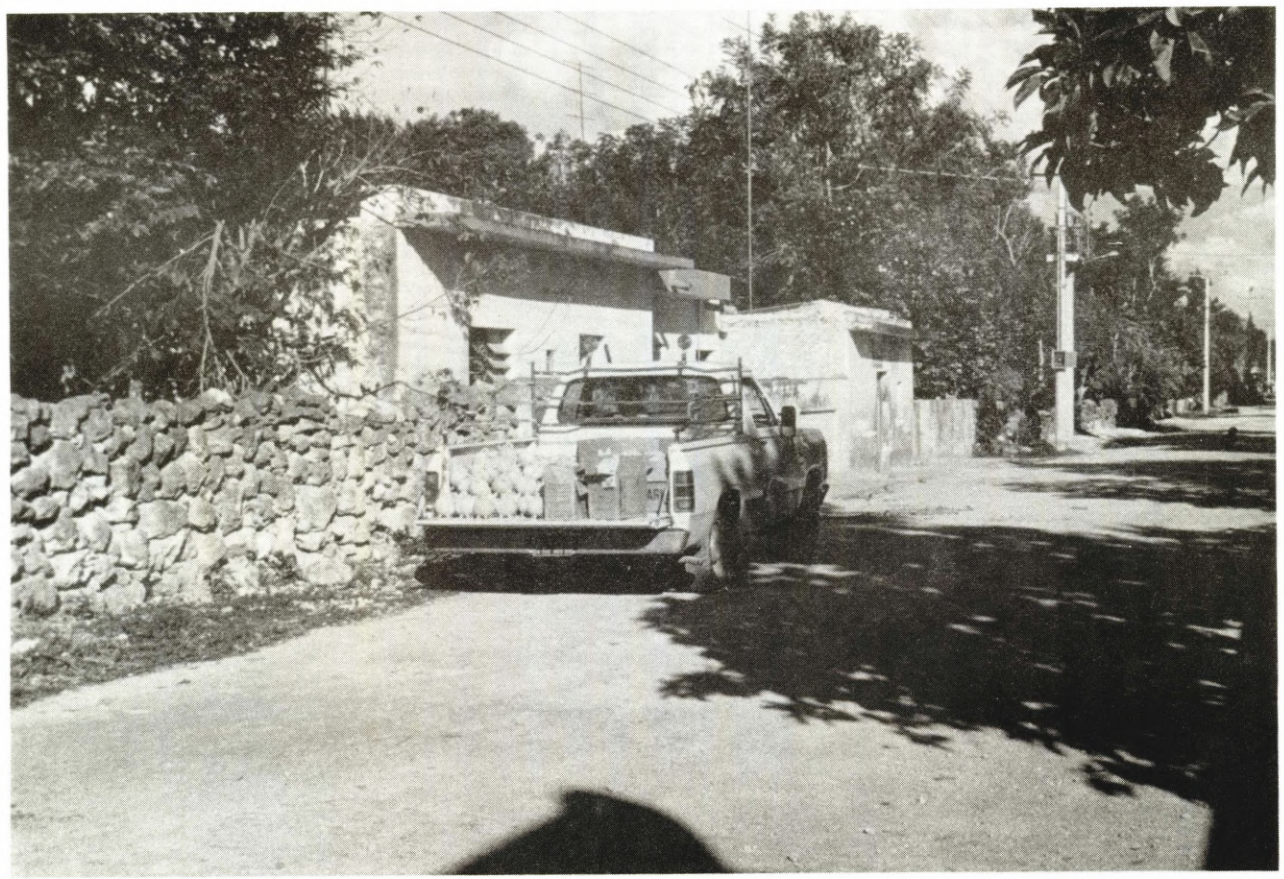

Fig. 5. View of the same Ticul street in 1984, from the same location as Fig. 4, but 19-1/2 years later. The same potter who lived in the house across the street in 1965 lived there in 1984, but the house has been enlarged and changed from a traditional Maya house to a totally cement house with a concrete roof. In 1984, potters themselves could no longer sell their pottery directly to consumers, but had to sell it to middlemen with trucks (who were also workshop owners) who took it to Merida and Cancun to sell to tourist shops.

Fig. 6. The main room in one of the houses of Ticul potters showing the juxtaposition of old and new technology. While potters still make pottery using local materials and techniques at least 1000 years old, they have accepted many items of modern material culture. Almost all Ticul potters, for example, now own a television and a radio, have electricity, and are hooked up to the municipal water supply.

pottery distribution 20 year ago, potters in 1984 can no longer directly participate in selling their wares to consumers. They have to rely on middlemen-specialists who have the contact, clients, and transportation (like pickup trucks) to distribute and sell their pottery.

What is the source of the changes in Ticul pottery in the last 20 years? It is clear that the changes in the ceramics have come from outside the community. In archaeological terminology, one could say that these changes are the result of culture contact of diffusion from the larger Mexican culture. The notions of diffusion and cultural contact, however, have limited explanatory power and tell us very little about the relationship between ceramics and society in Ticul. What is important is how these changes were introduced into the community and then incorporated into the potter´s craft.

All of these changes were introduced via workshops. Workshops were responsible for introducing molds, new vessel shapes and new decorative techniques. Workshops introduced molds into Ticul in the late 1940s. Ticul potters learned to make new shapes and paint attractive designs in the workshops at the tourist hotels at Uxmal, but these shapes had no market in Ticul and continued to be made exclusively at Uxmal until 1982 when the last workshop at Uxmal closed. The Uxmal workshops never employed more than five potters at one time, but at least 30 individuals worked there during the lifetime of the workshops. After these potters left Uxmal, they used the ideas, techniques, and skills that they had learned there to produce pottery in Ticul. Since there was little market for tourist pottery until relatively recently, the experience at the Uxmal workshops preadapted many Ticul potters for making and decorating pottery for a tourist market that has emerged only relatively recently in Yucatan.

Workshops are important sources of innovation because they free the potter from the risks of production. First, the potter-employee does not run the risk of finding a buyer for innovative, but potentially unsalable pottery. He can produce anything that the workshop owner wants without jeopardizing his economic returns. Second, workshop potters get paid a regular wage and do not need to make the capital outlay to purchase clay, temper, and firewood. Third, they do not have the risk of delays and damage to the pottery from inclement weather (see Arnold 1985: Ch. 3). Most important, they do not have to wait two weeks to fabricate, dry, and fire their pottery in order to obtain cash or food.

What has happened in Ticul, then, in the last 20 years is the development of a greater degree of specialization associated with workshops. What is

significant from an archaeological perspective is that the development of a distant market for pottery has largely removed potters from the direct sale of it to consumers, and this market demand feeds back into the specialization of the craft as a deviation amplifying mechanism (see Arnold 1985).

The Ticul data suggest that diffusion and culture contact are not very powerful explanations of ceramic change. Continuity of paste types during periods of great change in vessel shapes and decoration does not necessarily reflect cultural historical forces such as population movement or conquest, but rather reflects the same population being organized in more complex ways to provide ceramics for a larger and greatly expanded market. The development of workshops outside the household is a plausible social correlate for this phenomenon and a reasonable explanation for why great changes have occurred in Ticul ceramics in the last twenty years.

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